The Oil and Gas Journal

PUBLISHED WEEKLY BY THE PETROLEUM PUBLISHING COMPANY AT TULSA, OKLAHOMA

P. C. LAUINGER, *President* — *Editor*, C. O. WILLSON

W. T. ANDERSON, *Managing Editor* — JAMES McINTYRE, *Consulting Editor*

W. T. ZIEGENHAIN, *Engineering Editor* — C. K. FRANCIS, Ph.D, *Technical Editor*

W. L. NELSON, *Metallurgical Editor*

Associate Editors

T. F. SMILEY — T. P. SANDERS
DAL DALRYMPLE — PAUL REED
HARRY F. SIMONS — LYNN M. NICHOLS

District Editors

Houston, *617 Caroline St.*
NEIL WILLIAMS — F. L. SINGLETON

Fort Worth, *Petroleum Bldg.*
D. H. STORMONT

Shreveport, *City Bank Bldg.*
GEORGE WEBER

Los Angeles, *Union Oil Bldg.*
L. P. STOCKMAN

Washington, *Natl. Press Bldg.*
HENRY D. RALPH

Saginaw, *News Bldg.*
O. C. PRESSPRICH

Denver, *State Office Bldg.*
TOLBERT R. INGRAM

New York, *415 Lexington Ave.*
H. STANLEY NORMAN

Oil City, *Derrick Bldg.*
J. P. O'DONNELL

Chatham, Ontario, *Box 136*
VICTOR LAURISTON

S. H. ROURKE, *Business Manager*

M. L. DURHAM, *Circulation Manager*

Advertising

E. KLAPPENBACH, *Vice President*

New York, *415 Lexington Ave.*
C. L. CAIN

Cleveland, *Leader Bldg.*
HOWARD MARKT

Chicago, *300 W. Adams St.*
C. R. FARMER

Tulsa, *211 S. Cheyenne Ave.*
KENNETH J. LANGLEY

Houston, *617 Caroline St.*
WAYNE RIVES

Los Angeles, *1406 S. Grand Ave.*
J. HOWARD TINKHAM

Cologne, Germany—*1 Laudahnstrasse*
A. J. CHAMBERS

Table of Contents

Vol. 38, No. 16 — August 31, 1939

News Developments

Summary 7
Sparks From the News 8
Stocks Near Working Requirements After Shutdown ..... *C. O. Willson* 9
Texas Extends Shutdown to September 1 ..... *D. H. Stormont* 11
Humble Rescinds Crude Price Cut 11
Tractor Fuel Consumption Headed for New Record ..... *W. T. Ziegenhain* 12
Approve Salt Creek Field as Unit Operation 14
Earnings Not Keeping Pace With Products Demand ..... *Joseph Gordon* 15
News From State Capitals 16
Editorial: Answered 17
Oil-Field Operations During Shutdown ..... *Paul Reed* 18
Deaths in the Industry 18
Five-County Campaign Along Historic Wabash ..... *Harry F. Simons* 19
Fourth Discovery in California ..... *L. P. Stockman* 22
Pipe Line and Refinery 24
Natural Gas and Natural Gasoline 25
Embargo on Oil Would Cripple Japan ..... *V. R. Garfias* 26
International News 28
Service on New Fields—Hull-Silk Pool 29
Program Page 32
Two Mississippi Structures Given New Exploration 85

Engineering—Operating

Directionally Drilled Wells Drain Oil From Under Lake Centralia ..... *Harry F. Simons* 34
Manifold Hookup on a Coastal Louisiana Producing Property ..... *Neil Williams* 36
Operating Ideas 39
Steel-Fabricated, Arc-Welded Slush Pump ..... *W. C. Russell and L. W. Stahl* 40
Production Problems Loom for Shreveport Field ..... *George Weber* 47
Safety—Casing Racks Are Source of Danger 48
Welded-Type Well Head ..... *Joseph A. Kornfeld* 51
Appraisal of Oil Properties 51
A Small Library on Refining ..... *W. L. Nelson* 52
Questions on Technology ..... *C. K. Francis, Ph.D.* 54

Field Operations

Field Operations Summarized 57
Illinois 58
Louisiana and Arkansas ..... *George Weber* 60
Oklahoma ..... *Dal Dalrymple* 63
Eastern Fields ..... *Staff Correspondent* 66
Gulf Coast ..... *Neil Williams* 69
Southwest Texas ..... *F. L. Singleton* 70
Kansas and Missouri ..... *Dal Dalrymple* 73
North and East Texas ..... *D. H. Stormont* 75
Among Drilling Contractors 76
Michigan ..... *Otto C. Pressprich* 78
California ..... *L. P. Stockman* 82
Mississippi 85
Rocky Mountain Area ..... *T. R. Ingram* 86
Canada 90
Key to Abbreviations 91
Wildcats 91
West and Central Texas and Panhandle ..... *D. H. Stormont* 97

Markets and Prices

Group 3 Market ..... *T. F. Smiley* 102
New York Market ..... *H. Stanley Norman* 103
A.P.I. Refinery Report 103
Tank-Wagon Market 104
Refinery Prices 105
Crude-Oil Prices 111

Additional Features

Personal Paragraphs 100
Record of Oil Securities 106
Equipment News 107
Classified Advertising 110
Advertisers' Index 112

SUBSCRIPTIONS: United States, 1 year, $6.00; 6 months, $3.00. Elsewhere, 1 year, $7.00; 6 months, $3.50. SINGLE COPIES: 20 cents each. Back copies, when over a year old, 50 cents. CHANGES OF ADDRESS reaching the Tulsa office of the Journal by Saturday take effect with the following issue.

Copyright, 1939, by The Petroleum Publishing Company

6 RESULTS You Can Be Sure Of When You Use a BAKER CEMENT Wash-Down WHIRLER FLOAT SHOE

BAKER OIL TOOLS, INC., P. [illegible], Calif.

You will always find—BAKER CEMENT GUIDING, FLOAT[illegible] EQUIPMENT a perfectly balanced combination of the 3 features illustrated below.

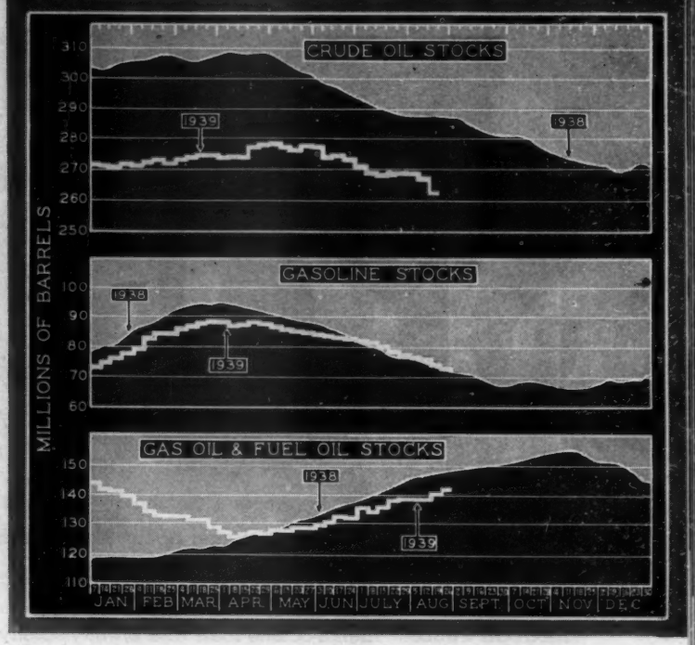
1. STRENGTH. The seamless steel Shoe, in which the plug of Baker-Formula Concrete and the Bakelite BALL-TYPE Valve Assembly are firmly anchored, provides a unit that is stronger than the collapsing strength of the casing on which it is run. It will float the longest and heaviest string of casing with an ample factor of safety.

2. VALVE EFFICIENCY. Valve efficiency is assured by the streamlined Bakelite Valve Cage, which permits free passage of the cement, and a buoyant Bakelite Ball which floats in the cement slurry or rotary mud and instantly forms a leak-proof, double seal against rubber (backed by Bakelite and concrete) at slightest pressure reversal.

3. DRILLABILITY. Complete drillability results from the internal construction of concrete and a minimum amount of Bakelite — the Bakelite BALL-TYPE Valve Assembly being set on end in the Baker-Formula concrete plug to present a minimum cross sectional area to the drilling bit. Both materials are quickly and easily drilled up and circulated out of the hole . . . leaving no objectionable fragments to interfere with coring or straight-hole drilling immediately below the shoe.

Trends

All Markets Share in Potent Results of Production Holiday



BY decreasing production in the United States last week 651,653 bbl. per day compared with the previous week's output, crude-oil output was lowered 2,108,652 bbl. a day from the production in the week ending August 12. In the past 2 weeks a gross of nearly 25,000,000 bbl. of crude has been kept off the market, which was partly offset by the quantity of oil run from lease storage that had been produced previous to the 15-day shutdown period. What this quantity was in the six states taking part in the shutdown is not yet definitely known. It is estimated that in Kansas over 85,000 bbl. of oil was removed from lease storage during the past week and over 160,000 bbl. a day from Oklahoma lease tanks. Assurance was given by Oklahoma and Kansas conservation authorities that no oil was produced during the 7 days in either state. It was expected that in every state where the shutdown was all, or in part, effective, refiners would fill their crude-oil requirements from tank-farm and lease stocks, and from stocks at their plants, where they were fortunate enough to have any.

Kansas and Oklahoma were the only states in which a complete shutdown of operations was effective. Texas produced 160,293 bbl. a day. The average daily production in Louisiana was 72,430 bbl.; New Mexico, 7,530 bbl., and Arkansas 29,785 bbl.

CRUDE PRODUCTION *1,445,494 bbl. daily average—down 651,653 bbl. One year ago 3,395,059 bbl.*

CRUDE STOCKS *262,486,000 bbl. as of August 19—down 5,050,000 bbl. One year ago 285,137,000 bbl.*

GASOLINE STOCKS *73,475,000 bbl. as of August 26—down 1,263,000 bbl. One year ago 71,893,000 bbl.*

GAS AND FUEL OIL STOCKS *141,274,000 bbl. as of August 26—up 1,249,000 bbl. One year ago 146,328,000 bbl.*

REFINERY RUNS *3,475,000 bbl. daily week ending August 26—down 100,000 bbl. One year ago 3,269,000 bbl.*

CRUDE PROD. (BBLS. DAILY)
REF. RUNS BBLS. DAILY
CRUDE OIL PRODUCTION 1938
CRUDE OIL PRODUCTION 1939
REFINERY CRUDE RUNS 1938
REFINERY CRUDE RUNS 1939
JAN FEB MAR APR MAY JUNE JULY AUG SEPT OCT NOV DEC

There can be no doubt that the shutdown movement strengthened the general crude and refined market situation. The action of Humble, Shell, Skelly and Barnsdall companies in reverting to their crude prices which were effective prior to August 10, was a healthy indication of the effect of the crude-oil holiday in the Mid-Continent and Gulf Coast fields.

A generally stronger refinery market developed out of the crude shutdowns. In Mid-Continent territory gasoline responded almost instantly to the changed conditions, which meant a restricted supply of raw material and heavy withdrawals from gasoline stocks. There has been an actual advance of at least ¾ cent in tank-car prices since the holiday started. In the eastern areas the improvement has been much less pronounced, though there, too, the beneficial influence is apparent. The natural gasoline division has felt the tightening effect of the shutdown more sharply than any other; for field stocks were at a low level, and manufacturers have been able to meet only a part of the urgent demands upon them. It is estimated that the shutdown has created a shortage of at least 1,000,000 bbl. of natural gasoline. Frantic search for material shoved prices higher, as it did in the refinery division. Other petroleum products responded in a modified degree to restrictions imposed by the shutdowns.

DAILY AVERAGE PRODUCTION FOR WEEK

	Aug. 26, 1939	Bur. Mines Aug. est. of demand	Aug. state allowables	Aug. 19, 1939
Oklahoma City	.....	.....	.....	39,418
Seminole fields	.....	.....	.....	18,396
Remainder of state	.....	.....	.....	126,536
Total Oklahoma	.....	448,100	428,000	184,350
East Texas	3,498	.....	.....	77,787
West Texas	24,600	.....	.....	73,890
North Central Texas	20,800	.....	.....	33,597
Texas Panhandle	18,196	.....	.....	17,800
East Central Texas	4,449	.....	.....	49,298
Gulf Coast Texas	72,650	.....	.....	94,000
Southwest Texas	16,100	.....	.....	29,700
Total Texas	160,293	1,428,100	1,355,598	376,082
North Louisiana	28,330	.....	.....	45,620
Gulf Coast Louisiana	44,100	.....	.....	130,450
Total Louisiana	72,430	259,300	241,602	176,070
California	614,250	595,100	598,300	629,250
Kansas	.....	178,075	164,000	79,869
Arkansas	29,785	51,900	64,991	49,257
Eastern fields	97,500	106,200	.....	97,200
Illinois	311,112	201,900	.....	292,237
Michigan	65,284	54,200	.....	68,592
New Mexico	7,530	111,000	113,100	63,450
Rocky Mountain area	87,310	97,400	.....	80,790
Total United States	1,445,494	3,531,275	.....	2,097,147

SPARKS . . . FROM THE NEWS

ROUND NUMBERS: By September 1 the shutdown program will have removed from the current market about 30 million barrels of crude oil and about 1 million barrels of natural gasoline.

TRACTOR FUELS: Higher-octane fuels and lower-viscosity lubricants seem to be the order of the day while introducing the new model, low-cost farm tractors.

CHECK AND DOUBLE-CHECK: Many operators have felt that once a small producing well is shut down it will be difficult and in some instances impossible to bring it back on to production. The current general shutdown will help to prove or disprove this contention.

FARMER'S SAND?: A new deep test in the Lisbon field is being drilled with considerable care to guarantee thorough testing of any and all shows. Reason: most independent operators and major companies in the field, landowners and citizens for miles around have taken a financial interest in the test which means much to the waning pool.

LIMIT: Until more pipe lines are built, and additional refining capacity provided, Illinois production is likely to be kept under 325,000 bbl.

SUPPLY-DEMAND: The industry is learning anew that the old law of supply and demand hasn't been repealed. Maladjustments which have plagued the industry for 2 years have again come to the fore.

JOHN PUBLIC'S MILEAGE: The average motor vehicle travels 8,870 miles annually on the streets and highways of the United States. Only 1.5 per cent of passenger car trips outside city limits were for 100 miles.

BAROMETER: Observers are predicting that the Sandoval field in Illinois will probably not be large, but that wells finding the Devonian high will be good producers.

LUXURY IN ITALY: On Sunday a news commentator in Rome said there was little travel on the streets of the city. One reason might have been that gasoline prices had been posted at 95 cents a gallon.

ILL WIND, ETC.: The East Texas shutdown is a real break for the fish. Oil company employes were being kept busy enlarging and improving salt-water pits to guarantee further prevention of stream pollution.

ENCOURAGING: Ste. Genevieve lime, now paying off in Illinois, has been proven present in northern Missouri in greater thickness and extent than originally thought and, as it has carried showings of oil in some tests, is encouraging to operators and geologists active in the area.

PERPLEXED: Operators in the Illinois basin are puzzled as to whether production in parts of the area is coming from several local features or a major structure — 1939 discoveries have caused this quandary.

COOPERATIVE: A community effort at secondary recovery in the Naval Reserve field in Osage County, Oklahoma, is proving highly satisfactory. Ownership and expense of equipment is shared on an equitable basis.

FARM TRACTORS: It is conservatively estimated that fall plowing and harvesting will see a million iron horses in use on American farms. These will consume something like 21,000,000 gal. of tractor fuel every day.

OKLAHOMA'S DEEPEST—14,479 FT. . . .

Currently Oklahoma's deepest and potentially the world's deepest well is this No. 1 Proctor of Continental Oil Co., Section 28-10n-20w, Washita County. Work is temporarily at a standstill but will be resumed when drill pipe is free

Six hundred operators attend hearing of Texas Railroad Commission, house of representatives chamber, Texas State Capitol, Austin. Here is a partial view of the session

Texas Railroad Commission extended its 15-day shutdown two days, ending at 7 a. m., September 1. Louisiana promptly followed suit. Representatives of other states present at the Interstate Compact Commission promised their regulatory bodies would act promptly.

By C. O. WILLSON

Stocks Near Working Requirement Levels

AUSTIN, Tex., Aug. 28.—The close of the shutdown period of 12 to 17 days in six oil states this week will find the crude-oil and gasoline stocks of a majority of the major oil companies reduced to working requirements or less, according to testimony presented today at a hearing of the Texas Railroad Commission.

Representatives of a number of the larger companies took the witness stand at the hearing and in answer to questions which had previously been sent to them gave testimony which clearly showed that in most cases they will not have excess crude oil and gasoline supplies on hand when the full effects of the shutdowns are determined. In two or three cases there will be actual shortages. There were exceptions to this general situation the most important of which was the Standard Oil Co. (Indiana) whose representative presented data showing that the company had approximately 15,000,000 bbl. of crude oil in excess of actual working requirements which the company desires to liquidate over a period of time.

Col. E. O. Thompson conducted the examination for the commission at which Lon A. Smith, chairman, presided. Jerry Sadler, the third member of the commission, was present and took part in the proceedings.

Representatives of the six oil states, Texas, Oklahoma, Kansas, New Mexico, Louisiana and Arkansas, whose oil fields are partially or wholly shut down at this time, and other members of the Interstate Oil Compact Commission attended the hearing. Approximately 600 operators from all parts of the oil country of the Southwest were at the hearing which was held in the house of representatives chamber at the Texas State Capitol.

Considerable interest attached to the testimony of H. C. Wiess, president of the Humble Oil & Refining Co., Nelson K. Moody, president of the Sinclair Prairie Oil Marketing Co., and George H. Taber, Jr., vice president of the Sinclair Refining Co. The Sinclair and Humble companies were the two largest buyers to announce reductions in posted crude oil schedules on August 10 and 11. These reductions, which were met by several other buyers and which are still in effect by these two companies, were largely responsible for the inauguration of the shutdown program 2 weeks ago. The hearing today was held largely to determine the effects of this shutdown movement and to obtain information as a guide to the future proration policies to be pursued by Texas and the five other shutdown states.

The Humble and Sinclair reports did not show a strong gasoline storage situation, with the Humble company facing an actual shortage of crude if the shutdown is extended beyond September 1. The Humble company, which is one of the largest refiners in Texas, reported 2,073,684 bbl. of gasoline on hand or 308,638 bbl. less than a year ago.

In regard to crude, Mr. Wiess estimated that its stocks on September 1 will be 7,628,529 bbl., a decrease from the 11,757,481-bbl. figure for August 1. The large decrease was due to the shutdown of the fields in Texas where the company is the largest producer and buyer of crude oil. Mr. Wiess explained that the company's crude oil working requirements were 12,000,000 bbl. The company, in addition to its own Texas refineries, supplies the bulk of the crude required

Shown at right are some informal groups, snapped during the hearing. Top: Ralph O. Dietler, Stanolind Crude Oil Purchasing Co., Tulsa; A. W. Peake, Standard Oil Co. (Indiana), Chicago; F. O. Prior, Stanolind Oil & Gas Co. Center: Don Knowlton, R. F. Hummer and K. S. Adams, Phillips Petroleum Co. Bottom: Charles F. Roeser, Roeser & Pendleton, Fort Worth; H. W. Camp, Cities Service Oil Co., Tulsa; W. A. Sinsheimer, Petroleum Advisers, Inc., (Cities Service), New York; Van A. Mills, Continental Oil Co., Ponca City, Okla.; G. V. N. Yates, Indian Territory Illuminating Oil Co., Bartlesville, Okla.

SEEN AT THE HEARING...

Seated at the desk above are members of the Texas Railroad Commission, Jerry Sadler, Lon A. Smith and Col. E. O. Thompson. Upper left: Group of independent operators. John E. Farrell, W. A. Moncrief and Harold G. Neely, Fort Worth; E. E. Smith, Dallas; E. A. Showers, Houston, and Leon F. Russ, Dallas

Above: R. M. Chan, Magnolia Petroleum Co., Dallas, on witness stand at hearing. Left: George W. Selinger, W. G. Skelly and C. C. Herndon, Skelly Oil Co., Tulsa

by the Atlantic seaboard refineries of the Standard Oil Co. of New Jersey.

"Are you a wee bit short of crude?" asked Colonel Thompson at the conclusion of Mr. Wiess' testimony.

"Yes, we are short of oil," said Mr. Wiess.

The Sinclair reports showed that gasoline stocks of the company's several refineries totaled 2,524,656 bbl. on August 18 with minimum working requirements of 1,750,000 bbl. Its crude-oil stocks on August 1 before the shutdown of fields was felt, were 15,200,000 bbl. of which 8,900,000 bbl. were listed as stocks available for immediate shipments. The company buys and produces approximately 160,000 bbl. of crude daily.

The reports of the several companies revealed that a surprisingly large percentage of present inventories is not available for refining processing. This figure, which every company was asked to furnish, included crude in pipe lines and tankers and tank bottoms. This crude was subtracted from total inventories in arriving at a figure for available crude. In some cases the subtractions represented from 25 to 50 per cent of the total crude stocks.

A summary of the first 14 companies reporting showed gross crude oil storage of 161,821,000 bbl., of which 107,918,000 bbl. were net stocks available for pipe-line shipment to refinery or terminal connections.

Several companies offered estimates as to maximum storage requirements of crude oil and gasoline for the entire industry over the next year. Most of the estimates showed that gasoline stocks should be reduced to 58,000,000 to 62,000,000 bbl. by October 1. On January 1, 1940, the estimates were 63,000,000 to 67,000,000 bbl. and April 1, 1940—the maximum storage point—the stocks should not exceed 78,000,000 to 82,000,000 bbl.

The estimates in regard to crude-oil storage varied more widely than in the case of gasoline. In most cases, the minimum working requirements of the entire industry were placed at 225,000,000 to 250,000,000 bbl. It was pointed out that when the full effects of the present shutdown movement were determined stocks of refinable crude probably will be down to the figure of 250,000,000 bbl. No provision for seasonal variation in crude oil stocks was made in most cases.

Not Interested in Storage

Questions also developed the fact that companies are not interested in speculative crude-oil or gasoline storage. They explained that it was the policy of their companies at all times to keep above-ground storage of crude oil and products at minimum working requirements.

Replies showed that none of the companies had any intention of running crude to storage at present or lower prices with the expectation of deriving a profit through later sales at higher quotations. In most cases they agreed that it cost from 20 to 25 cents per barrel yearly to store, a fact which quickly adds to the cost of crude in storage.

Two questions which had to do with how the companies arrived at prices they paid for crude and those at which they sold refinery products failed to develop any angles that were new. In the case of crude oil, representatives of some of the small companies said they usually followed their larger competitor both up and down. The larger buyers pointed to statistical conditions in the industry affecting supply and demand and revenue derived by refiners from a barrel of crude as determining the posted prices as well as the direct competitive conditions. In answer to this question Mr. Wiess said:

"Our company is but one of many companies engaged in the purchase and sale of crude oil. The prices it will pay over a long period are determined by the forces of supply and demand and in the end result from the interplay of the forces entering into competition. To attempt a complete answer to this question would require an economic treatise."

In regard to prices for refinery products all replies emphasized the fact that keen competition in wholesale and retail products is always present. Several explained that they endeavored in the sale of products to cover crude, refining, and market costs plus a reasonable profit. It was pointed out that owing to competitive conditions oftentimes it was not possible to achieve this objective. In answering this question a few companies said they usually followed the prices of the largest distributors in their marketing territories.

All companies expressed themselves in favor of the enactment and enforcement of laws to promote the conservation of oil and gas in all oil-producing states.

There was considerable discussion of the commission's question: "In the interest of conservation, does your company favor there being an outlet provided for the full production of all stripper wells before any oil is purchased from flush fields?" The gist of the replies to this question was that while the position of stripper-well production should be given every consideration possible and preference over flush production when possible, the crude buyers should not be expected to pay more than the refining value of the crude in comparison with other crudes.

Regarding the Texas Co.'s position on state proration laws, J. S. Leach, vice president, stated: "We are strongly in favor of and constantly advocate the enactment of suitable conservation laws in

states that as yet have not such statutes, as well as better and more equitable enforcement of existing conservation laws in states that have them. We believe that in the face of the potential oversupply of crude oil that now exists in this country, state conservation statutes, which by amendment and subsequent court rulings have been improved, constitute the best methods yet devised for preventing physical and economic waste of this irreplaceable natural resource."

Regarding stripper wells and equitable allocating of allowables, he stated: "We are sympathetic to the protection required for stripper areas, so that reserves thereunder might be preserved to the industry. However, stripper areas suffer a competitive disadvantage due to higher costs of production and gathering. We are willing to cooperate to the extent our facilities and requirements will permit.

"In order to accomplish such an objective it is vitally important that the commission continue to require, through proper orders, the widest practical spacing of wells in flush fields so that all unnecessary drilling may be avoided. This will eliminate the necessity of excessive allowables to such flush fields, for otherwise a situation would be created that would literally drown out the stripper areas from a possible market outlet."

Discussing selective buying, he said this practice could not be entirely eliminated.

"Under modern methods of refining and the increasing public demand for quality products, the old assertion that oil is oil, from a refining viewpoint, no longer holds. Transportation facilities that are available are also a factor as to what crudes we can afford to buy. Therefore, in the equitable apportionment of allowables of prorated fields these factors must be taken into account."

Proration of Crude

Regarding the proration of crude, W. A. Sinsheimer, New York, representing the Cities Service interests, said: "The production in prorated fields should be so allocated to each field that the greatest practical recovery of oil is achieved not inconsistent with market demand and all newly discovered pools should be developed under a unit plan."

One answer pointed out that the position of a producer in a flush field with output restricted to a minimum owing to market conditions needed consideration as well as stripper-well production.

The practice of selective buying of crude from fields was both condemned and justified at the hearing. Few of the larger companies favored without limitations the commission's suggestion for the allocation of the balance of each state's allowables equitably among the prorated fields of each state, coupled with the promise that the oil be purchased as allocated and thus eliminate selective buying.

Independent producers have charged that some of the large buyers favor fields in which they or affiliated companies have production as against pools where they have no production. It was contended by several of the large company buyers that several factors enter this problem. These include transportation charges, quality of crude, refinery requirements and capacity of pipe lines in a given area.

Charles F. Roeser, president of the Independent Petroleum Association of America, advocated discontinuance of granting special allowables without holding public hearings as it led to pipeline proration. Regarding extension of the 15-day shutdown, he did not favor such action stating there were other ways of cleaning up excessive crude stocks. He suggested as one method that all Mid-Continent states hold their production 20 per cent under the Bureau of Mines allowable for September, which would result in a lower figure of 493,800 bbl.

Leslie Humphrey, of Wichita Falls, representing the North Texas Oil and Gas Association, stated that general shutdowns of oil fields would do no good unless basic ills of the industry are remedied. He felt allowables could be distributed more fairly and equitably among fields, and top field allowables should not be based primarily on nominations of crude oil purchaser. He likewise disparaged the granting of special allowables, stating that it was one reason pipe-line proration is now in effect in the North Texas area.

Net working stocks of crude and gasoline in barrels, after deducting amounts required for filling pipe lines, tankers and tank bottoms, were reported by the various companies as follows: Sinclair Refining and Sinclair Oil Marketing, 1,750,000 and 8,900,000; Magnolia 871,000 and 10,872,000; Humble Oil & Refining and Pipe Line Co., 2,073,000 and 13,767,000; Texas Co., 3,471,000 and 8,502,000; Gulf Oil Corp., 816,000 and 6,871,000; Phillips Petroleum, 534,000 and 2,382,000; Socony-Vacuum, east of California (including Magnolia), 6,064,000 and 18,948,000; Sun Oil Co., 1,540,000 and 5,085,000; Skelly, 474,000 and 407,000; Standard of Indiana (including Stanolind Oil and Purchasing Co., Utah Refining and Pan American Southern, but excluding Pan American), 5,257,00 and 27,370,000; Ohio Oil, 135,000 and 9,944,000; Shell Oil Co., Inc., (east of California), 3,692,000 and 3,492,000; Tide Water Associated, east of California, 800,000 and 2,500,000.

Individuals representing various companies were George H. Taber, Jr., New York City, Sinclair Refining Co.; Nelson K. Moody, Tulsa, Sinclair Prairie Oil Marketing Co.; R. M. Chan, Dallas, Magnolia; Harry C. Wiess, Humble Oil & Refining, Houston; J. S. Leach, Texas Co., Houston; Walter B. Pyron, Gulf Oil Corp., Houston; K. S. Adams, Phillips Petroleum, Bartlesville; Frank O. Prior, Stanolind Oil & Gas Co., Tulsa; A. J. McIntosh, Socony-Vacuum, New York; J. G. Pew, Jr., Sun Oil Co., Dallas; C. C. Herndon, Skelly, Tulsa; A. W. Peake, Standard Oil Co. Indiana, Chicago; R. C. Gwilliam, Ohio Oil Co., Findlay, Ohio; Ted E. Swigart, Shell Oil Co., Inc., Houston; E. L. Shea, Tide Water Associated Oil Co., New York. Representatives of several other companies filed their answers with the commission.

●

State Commissions Act Quickly

By D. H. STORMONT

AUSTIN, Tex., Aug. 28.—Extension of the Texas shutdown until 7 a.m. Friday morning, September 1, was announced by Railroad Commission Chairman Lon A. Smith at the conclusion of the meeting held here by the Interstate Oil Compact Commission today. The extension was agreed upon by all Railroad Commission members, though at the commission hearing today Col. E. O. Thompson had indicated that he favored a five-day extension. The present shutdown order of the commission expires at 7 a.m. Wednesday.

Members of the Compact Commission and representatives of oil-producing states sat in with the Railroad Commission during the day and held closed sessions today noon and tonight. Compact Commission Chairman Thompson stated the compact had no announcement to make, as it had no power to suggest what the individual states should do. W. J. Holloway, representing Gov. Leon C. Phillips, of Oklahoma, stated a meeting of the Corporation Commission would be held at 10 a.m. on Wednesday morning in Oklahoma City. At that time the body will consider whether the Oklahoma shut-in, which expires at 7 a.m. on Thursday, will be extended. Other Oklahoma representatives attending were W. J. Armstrong and Charles L. Orr.

The New Mexico commission of Gov. John E. Miles, Hiram M. Dow, and State Geologist Andreas stated it would discuss the possibility of continuing the shutdown in that state at a public hearing to be held on August 31 at Santa Fe. The New Mexico shutdown expires at 7 a.m. on September 1.

A. F. Schoeppel, of the Kansas Corporation Commission, said that body had met in Wichita today and had recessed until 2 p.m. Wednesday. At that time the commission will decide upon extension of the shutdown order, which expires on August 31 at noon. Other Kansas delegates were Ralph Pryor and Theodore Morgan.

Michigan was represented by Ralph Fry, while Governor Horner, of Illinois, was represented by Guy E. McGaughey, who stated he would make a report to the governor upon his return to Illinois.

Louisiana extended its shutdown to Sept. 1.

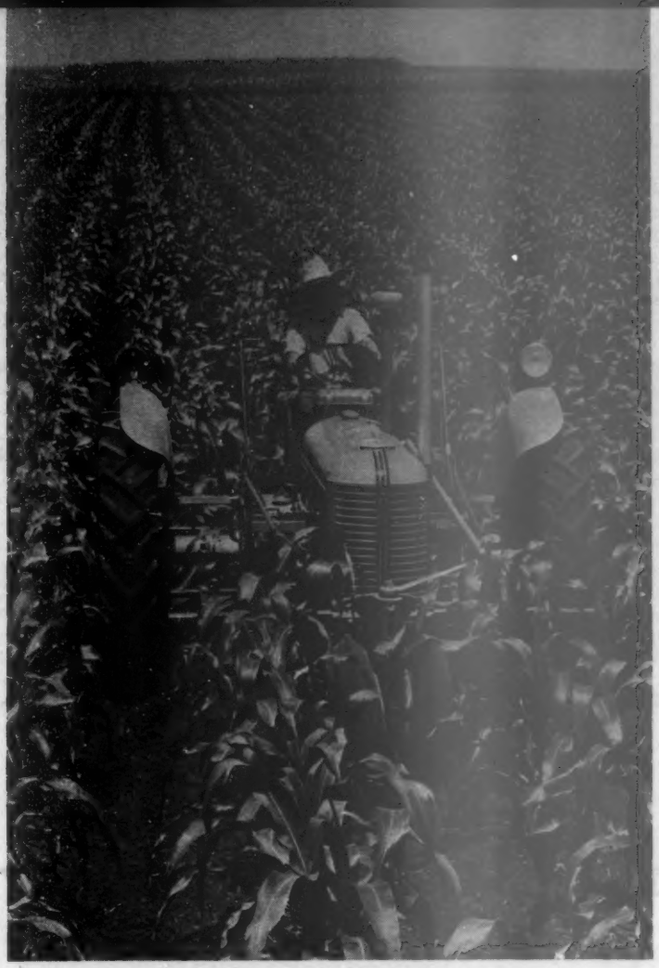
Humble Rescinds Crude Price Cut

● **Humble Oil & Refining Co. on August 29 announced that it had rescinded its price schedule, retroactive to August 11, thus restoring Humble's prices that prevailed prior to that date. The company gave as its reason for going back to the old prices the changes in conditions that have occurred since August 11, and its belief that the shutdown would be followed by normal production, and that the cut prices which forced the company to lower its schedule would no longer prevail. The statement held out the warning that if any considerable quantity of crude continued to be sold under the generally established posted prices, these lower prices will inevitably make the market, and cause a readjustment of Humble's prices.**

● **Effective August 29 Stanolind Oil Purchasing Co., in East Texas and Gulf Coast Texas, and Stanolind Oil & Gas Co. in West Texas posted new crude oil prices, being the same as those in effect previous to August 12.**

● **Barnsdall Pipe Line Co., effective August 28, returned to its old price schedule in the Laredo, Tex., district. Skelly Oil Co. will return to its former prices in Kansas when the shutdown is lifted. Shell Oil Co., Inc., will return to its old prices on September 1, excepting that it will pay on a gravity basis in East Texas starting at 98 cents for below 34 gravity, adding 2 cents for each degree to 40 and over at $1.10.**

● **As a direct result of the shutdown approximately 40,000,000 gal. less natural gasoline was produced than normally. The decrease is accounted for by states as follows: Texas, 23,000,000 gal.; Oklahoma, 12,800,000 gal.; Kansas, 2,000,000 gal.; Louisiana, 1,800,000 gal.; Arkansas, 400,000 gal.**



Tractor Fuel New Record

By W. T. ZIEGENHAIN

Distribution of Tractors on United States Farms by States

(Estimates made by Implement and Tractor as of July 1, 1939)

State—	No. tractors		
Alabama	11,005	Nebraska	71,235
Arizona	5,307	Nevada	482
Arkansas	14,666	New Hampshire	1,674
California	66,727	New Jersey	13,498
Colorado	18,408	New Mexico	4,994
Connecticut	4,910	New York	63,046
Delaware	3,695	North Carolina	21,452
Florida	10,929	North Dakota	52,098
Georgia	13,040	Ohio	97,374
Idaho	9,325	Oklahoma	47,055
Illinois	147,200	Oregon	14,127
Indiana	97,441	Pennsylvania	54,991
Iowa	135,262	Rhode Island	1,024
Kansas	98,506	South Carolina	6,876
Kentucky	12,818	South Dakota	46,103
Louisiana	12,510	Tennessee	13,803
Maine	5,253	Texas	108,037
Maryland	13,162	Utah	2,840
Massachusetts	6,415	Vermont	3,700
Michigan	60,136	Virginia	14,041
Minnesota	91,389	Washington	13,860
Mississippi	16,478	West Virginia	4,108
Missouri	52,705	Wisconsin	80,341
Montana	23,408	Wyoming	5,800
		Total	1,652,654

Some idea of the distribution of tractors in the United States is presented in the adjacent table from which refiners and marketers in these states are able to ascertain relative geographic consumption of fuels and lubricants

EARLY fall plowing and harvesting will probably bring into use a larger number of farm tractors than at any previous time. This is significant to refiners and marketers as the oil business has come to recognize the relative importance of farm power consumption as a potential market for oil.

At present there are more than 1,650,000 tractors on farms in the United States. To this number 20,000 tractors could be added to reflect the total available for use by the time fall peak demands will be satisfied. The latter figure represents the expected sale of light-weight tractors within the period.

It is probable that something like a million tractors will be in use and, assuming each machine will operate daily for a period of 14 hours and that each will consume an average of 1½ gal. of fuel per work-hour, the daily consumption of tractor fuel will be 21 million gallons or 500,000 bbl. This, of course, appears high and this rate of consumption will not be sustained over a long period but the importance of tractors on farms as a consumer of oil becomes readily apparent when consumption data are presented in this manner.

Quality of Tractor Oils

Equal to the importance of quantity is the matter of quality. Based upon specifications and advice from tractor engineers and sales representatives, there is a uniform movement among them to recommend the use of higher octane motor fuels and lower viscosity motor oils. The former change reflects to some degree the favorable reception being given higher compression motors for driving tractors. In turn, the more precisely machined high-compression motor is capable of using a lighter lubricant more advantageously.

These changes in the conception of a modern tractor fuel and a modern tractor motor lubricant are of great importance to refiners and marketers because there will be an increasing demand for petroleum fractions normally falling in the gasoline boiling range. At the same time a high demand will develop for the lower viscosity lubricating oils which usually take a lower price.

The transition from the distillate and low-octane fuels to the high-octane fuels will be slow and the trend toward using lighter lubricants will also be slow but not as slow as the motor fuels.

In reviewing the data it should be remembered that the great majority of tractors accounted for are of the larger type and are used in large-scale farming. This type will always be in demand for this work but it should also be recognized there are many small farms on which thousands of low-priced tractors will find a home. This fact is revealed in the recent announcements of Allis-Chalmers Manufacturing Co., International Harvestor Co., Oliver Farm Equipment Sales Co., J. I. Case Co., John Deere Tractor Co., Massey-Harris Co., Minneapolis-Moline Power Equipment Co., Fate-Heath Root Co., Cleveland Tractor Co., Ford Motor Co. and others that each has perfected a light-weight, low-priced general small-farm tractor. In each instance the cost of the equipment is relatively low, the range of prices extending down to $515. Most noticeable has been the resumption of production of Fordson tractors after a suspension of operations since 1928.

In presenting arguments in favor of the tractor over horses the manufacturers point out: "The purchase price of the tractor is less than four good work horses; the matched implements which can be used with the tractor cost less than horse-drawn implements; the tractor costs less to operate and maintain than four horses; the tractor does more work per hour per day; the tractor calls for no outlay for harness; the tractor lasts longer; the tractor releases land for growing marketable crops; about 5 acres of land are needed annually to keep each horse; the tractor is cheaper to operate. Savings of $165 a year are shown for each small tractor when operated 600 hours per year; trade your horse for paying livestock."

These statements and similar ones are prompting farmers to consider tractors for small farms and, according to C. R. Morrison, vice president of International Harvester, there are 3,275,000 farms in the United States of 70 acres or less on which there are no tractors. It is on this type of farm the light-weight, low-cost, modern tractors are expected to replace horses. Light-weight tractors are also expected to find places on large farms as auxiliary and general utility equipment. As such, the large potential market for these light-weight, low-cost tractors becomes readily apparent, and their influence upon oil consumption can be made appreciable.

Fuels and Lubricants

Typical requirements for this type of tractor may be outlined briefly and the specifications on the fuels and lubricants may be taken as an index of the type of products which the oil industry will be asked to supply in increasing volumes. For example, an engineer in the service department of one of the larger tractor manufacturing companies writes as follows:

"For engines equipped to burn strictly gasoline, we would recommend a fuel of the following specifications. For regular load, use 60-octane gasoline or higher, and for continued heavy load, use

Consumption Headed for

70-octane or higher. For engines equipped to burn low-grade fuel, we recommend the following. Any fuel having the following specifications: Gravity 38 to 44; end point 525° or less; octane rating 30 or more.

"Lubricating oil required for the motor is as follows: Summer S.A.E. 30; winter S.A.E. 10."

One company recommends the use of an S.A.E. 10 motor oil during the first 90 hours of the tractor's operation. The company then recommends the use of S.A.E. 30 oil for summer, S.A.E. 20 oil for spring and fall and S.A.E. 10W for winter. It further specifies changing oil every 40 hours of use in the winter period and every 60 hours in the summer, increasing the number of changes if unusual dust disturbances occur. The advertising manager of this particular company added: "You will be interested in the recent 101 Junior Nebraska tractor test where S.A.E. 10 oil is specified. This was unheard of several years back but with the modern precision, we are quite safe in specifying that grade of oil as the proper grade for breaking in the new tractors."

It will be remembered that when the new low-priced Fordson tractor was announced in June it was to be powered with a high-compression motor requiring regular-grade gasoline.

However, the desire to stress economy in operation is present in the literature of tractor companies generally and some companies hold to the plan of building motors which utilize the lower-priced tractor distillates. One manufacturer's advertising manager writes: "As for fuel, our tractors will operate on any fuel from gasoline to low-cost oil commonly called low-cost tractor fuel or distillate. As for a lubricant, a high-grade lubricating oil, not too heavy, is recommended."

In stating the lubricating oil requirements of another popular, low-priced, new model tractor engine the manufacturer recommends for use in the crankcase an S.A.E. 30 motor oil for temperatures above freezing and S.A.E. 20 for temperatures below freezing.

Still another manufacturer of a popular, new-type, light tractor states: "The engine burns gasoline, kerosene, distillate, good grade furnace oil, and no difficulty will be experienced with these fuels if the simple operating directions are followed.

"Distillates and other heavy fuels are manufactured to a variety of specifications; therefore, the tractor owner should investigate available fuels to determine which will give the most satisfactory results under the prevailing operating conditions, making sure that the directions are followed for adjusting carburetor and maintaining temperature.

"In nearly all communities, these heavy fuels are commonly used because of their lower cost and because they burn well and without any more detrimental effect than gasoline or kerosene."

It is interesting and very significant that the same manufacturer comments further in regard to the motor lubricants to be used in his new light-weight tractors. His instruction book to buyers of the tractor states:

"It is frequently found that men connected with the tractor and oil business believe that a good tractor oil must have a heavy body. This erroneous belief was founded on experience with oil when tractor construction was crude and the proper function of a lubricant was not well understood.

"When good oil of proper weight is used, the first few revolutions of the crankshaft cause the oil to circulate throughout the engine, completely coating all working parts, such as crankshaft bearings, pistons, cylinder walls, rings, piston pins and bearings, with a film of oil, thus preventing metal to metal contact. There is no opportunity for parts to heat and wear during the period in which the engine is warming up."

Cultivating, plowing and threshing are being accomplished here from the power developed by new-model, low-cost tractors. A cab is provided on one of them to permit working in all kinds of weather

Approve Salt Creek Field Operation as Single Unit

WASHINGTON, D. C., Aug. 28.—Acting Secretary of State Harry Slattery today signed approval of operation of the Salt Creek field, in Natrona County, Wyoming, as a single unit, with the exception of a few small tracts around the outer rim. Everything has been in readiness for the change for some time, and the new operation is scheduled to begin September 1. The last important obstacle to the consummation of the plan was removed recently when the State of Wyoming signed the agreement under which the 640 acres in the heart of the field became a part of the unit.

The unitization of the field has some aspects which are unusual and set a precedent. It is a rare incident for a field the size of Salt Creek, which has been fully developed, and in which there are many diversified interests, to be brought under an agreement for operation as a unit. Better than 90 per cent of all owners of leases, working interests, and royalties, including federal and state land, have been brought into agreement as to the terms and conditions. These ran in many directions and involved some factors not generally encountered in the working out of such a plan.

Midwest Oil Co. and Mountain Producers Corp. jointly will be operator for the unit and have employed Stanolind Oil & Gas Co. to do the field work under a long-time contract. The field has been fully drilled up, with approximately 1,300 wells on production from the several sands. Production from the unit wells at present is in the neighborhood of 12,000 bbl. a day. Typical wells in the field run from 10 to 15 bbl. per day, the range actually being from 1 bbl. to 80-100 bbl., there being comparatively few within the last-named category. Strictly speaking, it is a stripper field, with nearly all of the wells being pumped. The supervision of the unit will be under an advisory board of six members, not yet named.

ENGINEERS began working on the plan about 4 years ago, and their studies in the determining of ratios applicable to the different tracts in the field in proportion to the ultimate recovery from the unit as a whole. No attempt was made to estimate the quantity of recoverable oil in barrels for the entire field or to determine ratios on the basis of acreage or productivity, but to set up equitable ratios which will apply regardless whether future production amounts to 50,000,000 or 100,000,000 bbl. This was made possible because there are no unknown elements as to where participation lays, the field having been fully developed.

The principal objective of the unit will be to slow down the rate of decline of production by the introduction of the most modern and approved methods and for the more economical operation of the field from a single central plant. There may be some shifting of employment, but it is not contemplated there will be any noticeable reduction in the number of employes, and, in fact, an increase is expected in some phases of the work. The unit hopes to undertake some effective cleanup work by a more extensive application of the gas drive and other measures of secondary recovery. This will not be strictly a repressuring operation but will involve the injection of gas into certain wells for stimulating production in others under methods that will increase bottom-hole pressures. Vacuum pressure has been used for the past 10 or 12 years in some sands, but under contemplated changes the recovery methods will be broadened and made more effective and tend to do away with inert oil at the bottom of the holes.

Approximately 15,300 acres within the structure are eligible for admission into the unit. Others may be admitted upon signing the agreement. Salt Creek was discovered in 1908, and production began in 1911. Up to the end of 1938 the field had produced 283,021,000 bbl. It is the largest field discovered in the northern Rocky Mountain area.

Basing Point System

ASST. ATTY. GEN. THURMAN ARNOLD has disclosed his intentions of instituting suit under the antitrust laws against major oil companies which will raise the issue of an alleged basing-point system in the distribution of gasoline. This disclosure was made late last week in a letter which Mr. Arnold addressed to Edwin T. Kerr, Wyoming attorney general, who had appealed for federal assistance in his effort to break up alleged price-fixing of gasoline in that state. The suit is slated to begin as soon as legal issues in the pending antitrust cases against the petroleum industry are determined.

In his letter to Mr. Kerr, Mr. Arnold declared that gasoline price-fixing was a nation-wide situation. He stated that the matter has been under investigation by the Department of Justice for some time, and explained that the conditions result from the application of a system closely similar to the basing point in steel with regard to oil prices.

"This basing-point system," he averred, "which is in large part responsible for gasoline prices, is not a local situation and requires treatment on a nation-wide scale." He added that various phases of the basing-point system are currently being prosecuted or investigated.

Mr. Arnold pointed to the Madison case as one method of stabilizing prices, which case was reversed by the Circuit Court of Appeals and is now headed for the Supreme Court.

Refuse Rate Petition

FRANK E. MULLEN, Interstate Commerce Commission examiner, has recommended that the commission refuse to compel railroads to increase their rates on petroleum products from California to Arizona in order that motor carriers could compete on shipments on a profitable basis.

The proceedings were instituted by the I.C.C. upon its own motion. The motor carriers contended that the existing rates were unduly low and that they could not continue in the transportation of peroleum at the present rate levels.

It was contended by the railroads that their rates were not below reasonable minima and that the motor carriers were attempting to operate in the field of long-haul transportation which was beyond their proper economic sphere.

Investigation included all points in California as origins and all points in Arizona as destinations. Railroads involved were the Atchison, Topeka & Santa Fe Railway Co., Southern Pacific Co., Union Pacific Railroad Co., and the Pacific Electric Railway Co.

MR. Arnold also pointed to the grand jury investigation now in progress in California as another method of stabilization. Still another suit involves the fixing of prices by means of patents in the Ethyl Gasoline suit, in which case a decision favorable to the Government has recently been handed down in New York.

In Mr. Arnold's opinion considerable time and expense will be saved by awaiting the investigation of the Temporary National Economic Committee in the oil industry. Senator O'Mahoney has been directing an expensive investigation of the facts, which are expected to be presented this fall. "The information which will be adduced at the hearings is a necessary prerequisite to orderly and effective action," he declared.

In his letter Mr. Arnold indicated that Mr. Kerr had also charged that "the major oil companies have not only set the price but have contacted independent dealers with a view to getting them to raise their prices on all occasions when the major companies advance their retail prices.

"If these are the facts, such a conspiracy raises no complicated legal issues; and if it can be proved, action can be taken immediately by the United States attorney general before a grand jury," Mr. Arnold wrote, adding that the federal Bureau of Investigation office in Denver had been assigned the task of corroborating this particular charge.

European Oil Supplies

THERE is a dearth of information as to the supply of oil in Europe. It is generally believed that Great Britain and France have only limited supplies of aviation gasoline. Steps have been taken by both these nations to enlarge production by the construction of hydrogenation plants, but it will be several months before the effects of the program will be realized. On the other hand, the dictator nations are understood to have rather large supplies, Germany in particular being reported as having a large amount of aviation gasoline in storage. This country is credited with daily production of from 45,000 to 50,000 bbl. from coal by the hydrogenation process. As to other oil supplies, the situation is believed not so favorable, estimates agreeing that supplies on hand would endure for only about 6 months' normal requirements. Should war ensue, oil consumption would immediately mount despite curtailed private use.

THE INVESTORS' VIEWPOINT

Investors throughout the entire world are more interested than ever before in the oil business. Because of the steady increase in demand for its products large and small owners of securities have had confidence in the future of the industry and have increased their holdings over a wide front.

Reflecting this development many investment houses keep in close touch with the industry's statistics which are the basis for analyses of markets. These views "outside" the industry largely determine investment trends.

In this article, Mr. Gordon, of the research department of Fenner & Beane, investment brokers, analyzes current conditions in the oil industry.

Earnings Not Keeping Pace With Products Demand

BY JOSEPH GORDON

RECENT acrimonious debate within the oil industry, resulting from the general cut in crude prices initiated by the Sinclair Prairie Marketing Co. and the subsequent shutdown of producing wells in the Mid-Continent has created much heat but little light. At a time when the best and most sincere brains in the industry are working overtime to solve truly vexing problems, a layman would get the impression that oil men are either knaves or fools, judging from the charges and counter charges that have recently been hurled back and forth. Furthermore, at a time when the economic interdependence of the different branches of the industry has never been more strikingly demonstrated, the picture is presented of a house divided against itself.

It is in this kind of atmosphere that public distrust flourishes most rapidly. And yet, unless the oil business has already reconciled itself to federal control, with its devastating effect upon initiative, opportunity and earnings, it will require all the public confidence it can muster in the days to come. As an economist, it has been disconcerting to witness the failure of the industry to put its house in order, when the economic causes of its difficulties have been so readily apparent. As an investment analyst, it has been distressing to see a new record demand for petroleum products coupled with some of the poorest earnings reports in the industry's recent history. And yet there is nothing to be gained by dwelling on past errors unless there is contained therein a lesson for the future.

Unhealthy Relationship

In a bulletin issued for Fenner & Beane, Stock Exchange members, under date of September 29, 1937, in which the supply-demand relationships of the industry were analyzed, the writer stated, "Temporarily hidden by a record level of demand for petroleum products, an unhealthy supply-demand relationship has developed in the producing division of the petroleum industry and we believe there exists the possibility of a maladjustment developing in the gasoline division. Accordingly, a test of the petroleum price structure may develop . . . more thorough than any witnessed in the past 2 years." In a subsequent bulletin, dated May 31, 1939, it was stated, "There still exist severe supply-demand maladjustments in the refining division of the petroleum industry, the correction of which will require close control over operations, and the nearer term success of which is not yet assured." On June 17, 1939, it was stated, "Although recent advances in tank-wagon and tank-car gasoline prices have imparted an appearance of strength to the petroleum outlook, the immediate trade and earning prospects of the oil industry appear obscure . . . Supply-demand maladjustments which have plagued the industry intermittently since the final half of 1937 have again come to the fore. Intimately related to the statistical problems of the industry are political questions, the immediate solution of which cannot be predicted with confidence . . . there is some doubt whether existing crude prices can be maintained after the seasonal peak for consumption of motor fuel has been passed."

These quotations are not cited with any desire "to point with pride" to a record of successful prediction; other competent students of the industry issued similar warnings during the period covered. The pertinent question involved is whether there is inherent in the nature of the industry any reason why maladjustments which developed cumulatively over a period of 2 years could not have been arrested and cured before they reached recent crisis proportions.

Facts in the Case

It is an old story to the industry, but a recital of the facts may help bring home the point.

1. Production of gasoline and heating oils has been running steadily ahead of consumption with minor exceptions, for nearly 2 years with a consequent burdensome increase in stocks.

2. Although not to the same extent as in the case of gasoline, crude output has also exceeded economic requirements thereof.

3. In the face of the highest ratio between proven reserves of crude and demand thereof in the history of the industry, new wells have been drilled in excessive numbers and well-spacing regulations have been honored as frequently in the breach as in the observance.

4. Imports of crude have recently increased at an alarming rate.

5. Rapid expansion of Illinois output has disorganized many previously established marketing and price relationships in the Mid-Continent.

6. In Louisiana, particularly, but also in other states, per-well allowables have been consistently exceeded.

7. In reflection of these circumstances, prices of both crude oil and refined products have been depressed, earnings have been restricted, market action of oil stocks has been poor, and return to investors has been reduced.

It will be observed that the causes of recent petroleum price weaknesses have not been confined to any single division of the industry. Extensive studies of the economics of the industry provide convincing evidence that weakness in crude prices is inevitably transmitted to the refined price structure while a weak refined price structure communicates itself without exception to crude oil prices. The argument therefore that the refining division of the industry attempted to take advantage of the producing division by bringing pressure to bear on crude prices simply does not make economic sense. It merely indicates a confusion of thought as to cause and effect relationships within the industry. The important consideration is to analyze the causes which bring price weakness to either division of the industry.

Preoccupied with working out their individual company problems, most oil executives during the past 2 years have lost sight of the possible impact of their own operations upon the supply-demand relationships of the entire industry. During a period when the retail refined price trend has been tending downward, the marketing divisions of most companies have been putting too much emphasis upon unprofitable gallonage. In addition, with substantial excess inventories of gasoline already on hand and an unprofitable level of prices at refineries, runs of crude to stills have steadily

(Continued on Page 98)

ERNEST S. CLEMENTS, commissioner of the Louisiana Department of Conservation, was born in Oberlin Parish, Louisiana, in 1898. He entered Louisiana State University in 1913 and graduated with a B.A. degree in 1918. He entered the U. S. Army and was made an officer at Camp Hancock, Georgia. Following the close of the war he successively studied law, was made deputy clerk of the court and court reporter in Allen Parish, was appointed secretary and treasurer of the Allen Parish Police Jury, the equivalent of the county supervisors board in other states. In 1936 he was elected state senator from District 14. Previous to his appointment as commissioner he had no active association with the oil business.

ARKANSAS

AT A HEARING ON AUGUST 26, the Arkansas Oil and Gas Commission issued amendments to the production schedule for August and September, which was temporarily suspended by the shutdown order. The shutdown order will be abrogated effective 7 a.m. September 1, as it affects all controlled production. However, effective at the same time, a second order will be issued on allowable schedules for all fields. The shutdown was lifted, effective 7 a.m., August 27, on the Atlanta field and the Reynolds lime reservoir of the Schuler field. It was extended to September 1, on all other fields with the exception of the Jones sand reservoir at Schuler, which pool will remain shut in until 7 a.m. September 4.

CALIFORNIA

THE CENTRAL COMMITTEE of California Oil Producers announced the permissible production for the month of September will be 598,300 bbl. per day, the same as in August. The Central Committee cut 10 bbl. per day off the top wells and in doing so set 230 bbl. per day as the maximum any well in the state can produce. A check indicated that this ruling would affect approximately 500 flowing wells in the state. No change was made in the 15-bbl. minimum for stripper wells and small producers that are on the border line.

AUGUST 29 WAS THE DEADLINE for the referendum on the Atkinson oil control bill but it will be another 2 weeks before the status of signatures is determined. If 132,000 valid signatures of voters have been secured operation of the control measure will be stayed until voted upon at a general state election.

TEXAS

THE FEDERAL TENDER BOARD in a ruling at Kilgore on August 28 denied approval of tenders for oil run from Humble Oil & Refining Co. leases in applications including an increase authorized recently in federal court at San Antonio. Rex Baker, attorney for Humble, gave notice his company would appeal the board's decision in court.

The following tender applications were denied:

Humble Pipe Line Co. to Humble Pipe Line Co., 12,783 bbl.

Humble Oil & Refining Co. to Humble Pipe Line Co., 2,782 bbl.

Tidal Pipe Line Co. to Texas-Empire Pipe Line Co., 299 bbl.

The latter three were for oil from Humble leases.

In a four-page statement the Tender Board rejected the tenders on grounds that the oil "is or would be contraband within meaning of the Connally Act."

The board observed: "The order of the U. S. District Court for the Western District of Texas, San Antonio division, in Humble's suit against the Railroad Commission does not show on its face that it applies to the Federal Tender Board or that the federal board was party to the suit."

The board found that Humble's tenders asked for an increase in daily production not in keeping with the Texas Railroad Commission order of June 19, covering the period from July 1 to October 1.

THE RAILROAD COMMISSION ordered Monday, August 28, that oil produced under exemptions during the 15-day shutdown be made up by cutting back allowables when the fields are reopened.

The commission gave a recapitulation of exemption listing 17,786 wells with a daily allowable of 228,035 bbl. daily. The Oil and Gas Journal reports Texas' production for the week ended August 26 at 160,293 bbl. The exempt wells have not been allowed their full allowable but a minimum to continue operations.

Chairman Lon A. Smith and Commissioner Ernest O. Thompson signed the order which recited:

"It is the order of the Railroad Commission of Texas that all the oil produced under exemptions must be made

STATE CAPITALS

up by cutting back later on when we open the fields again.

"This order is in fairness to the other operators who have closed their wells to save the little stripper wells from being plugged and abandoned."

The recapitulation of exemptions follows, listing the area, proration district number, number of wells, and daily allowable, respectively:

	District	Wells	Barrels
Southwest Texas	1	1,678	18,625
Southwest Texas	2	203	9,080
Gulf Coast	3	2,193	83,246
Southwest Texas	4	791	29,068
East Central Texas	5	1,097	4,928
East Texas	5	62	2,998
East Texas field	6	137	561
West Central Texas	7B	1,258	6,279
West Central Texas	7C	307	8,924
West Texas	8	800	19,895
North Texas	9	8,784	33,376
Panhandle	10	406	11,055
Total	..	17,786	*228,035

ILLINOIS

WIDENING SUPPORT for control of crude-oil production in Illinois within the state probably will result in Gov. Henry Horner recommending the passage of an adequate conservation act, it was indicated by developments over the past week.

It is assumed that Governor Horner will call a special session of the Illinois Legislature in September or October in order to consider certain tax and revenue matters that are pending. It is said that Governor Horner, who has expressed his support of oil conservation several times during the past year, is now seriously considering recommendations for a conservation law in Illinois to be incorporated in the call of the special session.

It is known that recent reductions in posted crude-oil prices for Illinois oil have caused many independent producers to change their previous attitude of opposition to proration and conservation regulations. Henry M. Dawes, president of the Pure Oil Co., which is the largest leaseholder in the state and one of the large producers, last week said:

"In our opinion the general good of the state would be served by passage of an act for the regulation of oil field operations that is based on conservation of natural resources."

"Sentiment for reasonable oil regulation in Illinois is growing daily throughout the state," G. H. Blankenship, executive vice president of the Independent Oil Producers of Illinois, said. "As they realize the serious threat unregulated oil production and marketing methods are to the state's prolonged participation in its new-found oil prosperity, an increasing number of communities and newspapers are joining in the movement for needed legislation."

MICHIGAN

MICHIGAN OIL PRODUCERS AND BUYERS have been invited to a hearing September 6 in Lansing when decision will be made on whether or not to continue the emergency reduction in the state's oil production. State orders, in cooperation with more drastic curtailment in southwestern states, became effective August 23 and reduced proration limits 50 per cent in southwestern Michigan fields, 20 per cent in the Clare County field in North Central Michigan.

The emergency order is effective until September 12. Whether it will be extended 30 days or more, Conservation Director P. J. Hoffmaster said, will depend on evidence presented at the public hearing. Mr. Hoffmaster, state supervisor of wells, explained that if no evidence is presented that surpluses are decreasing, the order will be extended as long as necessary.

KANSAS

KANSAS CORPORATION COMMISSION at its meeting on August 28 indicated it may reduce the allowable production in the state during September but adjourned the meeting until Wednesday without action. Crude-oil purchasers nominated 161,303 bbl. a day as sufficient to fill their September requirements, 160,900 bbl. in October, and 160,700 bbl. in November.

New proration rules were mailed last Friday to 1,100 operators. The commission directed operators to supply promptly scale maps of the producing areas drained by each of the 5,000 prorated wells in the state so acreages might be considered in allocating September production.

LOUISIANA

ALLOWABLE PRODUCTION IN LOUISIANA in September was fixed at 235,475 bbl. per day, of which North Louisiana is allotted 62,488 bbl. and South Louisiana, 172,987 bbl. The order is signed by Ernest S. Clements, commissioner of conservation, and attested by D. B. McConnell, director of the Minerals Division of the Department of Conservation.

The OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by The Petroleum Publishing Company at Tulsa, Oklahoma

Answered

Question No. 15 submitted to oil executives at the Austin hearing was: "What factors does your company consider and how does it determine the price at which it sells refined products?"

It is to be hoped that the answers to this particular question will serve to clear up a lot of false ideas and confusion in regard to how the price of gasoline and other products is arrived at.

There always have been men within the industry who have believed that prices for products were controlled by a few sellers who could move prices up or down as they saw fit.

The large reduction during the past 2 years in the earnings of companies engaged in the refining and marketing of petroleum products is unanswerable evidence that this is not the case.

No one company has had more than a small part of the refining capacity and marketing facilities in the United States. There is plenty of evidence of the futility of one or more companies attempting to advance prices contrary to basic conditions in wholesale and retail markets.

In regard to refined products there are more than 250 separate and distinct organizations operating approximately 475 plants located in 34 different states. Practically all of these plants operate 24 hours daily and their products are offered on the market every working day in the year.

There is no important consuming market in this country in which there are not at least 10 to 100 refiners energetically endeavoring to market part or all of their products.

The competition becomes even more keen after the products leave the refineries. In addition to the bulk-station operations of large refiners there are more than 10,000 independent jobbers in this country who are a major factor in determining the price trend in the oil business.

Beyond these are more than a quarter million retail dealers in finished products who are now entirely independent of their sources of supply in determining what prices they shall charge for their products.

It is this fundamental situation which makes absurd the charges which are revived from time to time in regard to price and monopoly control within the oil industry.

The answer to the question of price in these phases of oil operation is competition. Refiners and marketers naturally attempt at all times to secure a price in line with their costs plus adequate profit.

The advantage of one company over another is not great, provided the basic cost of their crude oil supply is the same. The trouble starts when one or more concerns are able to secure advantages not available to the industry generally, bringing about conditions where markets are generally below profitable operation.

The main thought here is that control cannot lie in the hundreds and tens of thousands participating in the refining and retail sales of the industry's products. These are part of the American system of open competition which has protected consumers and has furnished the incentive for maximum efficiency in the industry's operations.

Control must necessarily rest further back in the industry's operations, centering in the discovery and production of its raw material.

The oil industry has kept its prices low. Its open competition is one explanation why its products are so well received by consumers and why its markets are steadily expanding.

Well-servicing activity has continued throughout shutdown period

By
PAUL REED

Oil-Field Operations During The Shutdown Period

FAR FROM being a period of idleness, the 2-week shutdown period has been an active one in the field for a large number of producing organizations. At the start, steps were promptly taken to utilize this time for work of various kinds which will increase the efficiency of producing properties and effect substantial economies. Furthermore, the widespread shutdown has presented petroleum engineers with an unprecedented opportunity to study certain phases of reservoir conditions. It is possible that data will be obtained as a result of these studies which will have an important influence on production practices in certain areas in the future.

Among the major companies operating in the Mid-Continent, a general policy has been adopted of having men, who were entitled to vacations, take them during the last fortnight of this month. However, one of the largest major companies has not encouraged field employes to change their vacation plans because of the shutdown; this company preferred to have properties fully manned in order to be ready to resume operations quickly in case of withdrawal of shutdown orders before the end of the 2-week period. The production department of another major company regrets that employes were urged to take vacations at this time because, once the work of putting the leases in order was under way, it was found that all hands could be used to advantage.

An increase in cleanout work and well-servicing work of all kinds has been reported by most companies. Replacements have been made which otherwise might have been postponed. Other companies have continued to do well servicing at the same rate; in some cases it is reported that well servicing has been decreased. On a number of properties where conditions were such that more efficient operation would be possible by making changes in the sizes of equipment, transfers have been made. Engines have been overhauled and belts have been replaced. Leaky lines have been repaired. Old lines have been dug up. Treaters and salt-water pits have been cleaned out. Junk of all kinds has been picked up for disposal. Considerable painting of buildings has been going on. One superintendent says that his men have enough work ahead to keep them busy for another week. So far, he has been a long way from needing to assign men to weed cutting for the purpose of having them occupied.

Pumpers, in the majority of cases, have been working on the leases where they are stationed. Some instances are reported where pumpers have been detailed to work with servicing crews. Work during the shutdown period has either been outlined by the management or left to the direction of district superintendents and supervisors.

On producing properties operated by Phillips Petroleum Co., according to D. R. Knowlton, manager of production, pumpers have been organized in gangs of 10 or 12, working under the direction of a gang pusher. A gang of this kind takes one property after another in the general overhaul and cleanup campaign. A feature of shutdown practices with Phillips, as well as with other companies, has been the taking of bottom-hole pressures immediately before shutting down. Bottom-hole pressures will be taken again just before operations are resumed. This has been done in the Billings pool, Oklahoma, and at other points where it was particularly desirable to get significant data on reservoir conditions. In the Oklahoma City field, there is special interest in data from such tests at points where wells are located in a 5-spot pattern. A number of companies have instructed men in the field to measure fluid levels at the beginning and end of the shutdown and to keep records of individual wells when operations are resumed.

Gas injection has continued on repressuring projects. In the water-flooding areas, it is believed that the shutdown period will be harmful for properties where formations are under "drum-tight" pressure. No harm is expected where properties are in the early stages of water injection.

Production superintendents and engineers as a rule regard the shutdown period as a great experiment which will have far-reaching effects. It has been pointed out that in areas where production comes from highly permeable formations there will be a leveling of oil and water in formations which will mean that working barrels may be raised and operating conditions will be improved. Doubt is expressed as to the effect of the shutdown on wells in formations of low permeability. An appraisal of the harmful and beneficial effects of the shutdown on producing properties will be possible within about 2 months after production is resumed and sufficient data are available from which conclusions may be drawn.

DEATHS

GEORGE BOLE, 59, Tulsa, independent operator, died August 28. Born in Duke Center, McKean County, Pennsylvania, his early connection with the industry was with the South Penn Oil Co. In 1907 he removed to Robinson, Ill., and 6 years later moved to Tulsa.

CHARLES EDWARD BIRTCHIEL, of Pithole, Pa., is dead at 87. Born at Buchanan Furnace, Clarion County, in 1852, he moved to Venango County as a small child and his first job was rolling barrels at Rockmere. For many years he operated leases in the Pithole district.

JOHN H. FINDLEY, 78, retired Wichita, Kans., oil well driller, died in a Wichita hospital last week. He had resided in Wichita since 1927, moving from Foraker, Okla., where he was active in Oklahoma fields.

M. C. BreDAHL, 60, retired Tulsa oil man, died last week. A native of Iowa, he moved to Tulsa in 1918 to join the H. F. Wilcox Oil & Gas Co. as head of the land department. He remained with this company until 1921, when he resigned to organize his own company.

THE MARKETS*

CRUDE OIL: With unprecedented drop in production, the crude market is in good strategic position. Opinion estimated to represent 85 per cent of all crude purchased favors substantial reduction of crude allowables for September below those of August. Failure to cut allowables, it is declared, will result in both crude and refinery markets returning to former unhealthy condition.

REFINERY: Most divisions feel bracing influence of crude shutdown. Definite strength of gasoline in interior regions is reflected in eastern markets. Maintenance of improved conditions depends upon extent to which crude production and refinery runs are curtailed after crude holidays are ended.

TANK WAGON AND POSTED DEALER: Scattered changes only, but adjustments conforming to higher tank-car prices are expected.

FINANCIAL: Oil shares did not move far from levels of preceding week, and they participated moderately in a last-day rally. Average of 30 representative stocks for week ending August 26: High, 23.49; low, 22.09; close, 23.18. Week ending August 19: High, 23.86; low, 22.96; close, 23.20.

*Detailed information in market section.

Five-County Campaign Along Historic Wabash

By HARRY F. SIMONS

EVANSVILLE, Ind., Aug. 28.—Discoveries since the first of the year in Gibson and Posey counties, Indiana, and Wabash, White, and Gallatin counties in Illinois have the basin operators in a quandary as to whether the production is coming from several local features or is a major structure. If it is the latter, the present development along the Wabash River will eventually take its place with the top-ranking pools in the Illinois basin. Two good pay zones have been uncovered, and the possibilities in a third and a fourth add to the attractiveness of the area. It has already proven the existence of a good two-pay field in Gibson County, Indiana, that state's first big strike since the discovery of the Prairie Creek field late in 1937. If all of the new producing wells are on the same structure, a field 10 miles long and several miles wide is in prospect.

Interest in the area was first attracted by the completion of the Fitzpatrick & Hays' No. 1 Cooper estate, SE NW NE Section 13-3s-14w, Gibson County, Indiana, as a McClosky-lime producer making 500 bbl. per day through ½-in. choke. The second well was completed shortly after that, but lack of tankage or a pipe-line connection held up a production test. It was the Hollandsworth & Bander's No. 1 Cooper, NE NW NE Section 13-3s-14w, with McClosky lime at 2,862-86 ft., which flowed 965 bbl. in 24 hours through a ½-in. choke and 310-lb. tubing pressure when it was completed.

The pool, now called the Griffin field, was not rapidly developed, due to the uncertainty of the lime production, lack of a pipe-line outlet, unsatisfactory weather conditions, and the overshadowing by the huge Salem field, which was attracting all of the attention. Several major operators who got a late start in Illinois watched the area closely, although they were still not enthused about its possibilities. Much of the offset acreage to the discovery well was owned by independents, although Continental Oil Co. had a large spread, some of it close in. That company recently completed one of the largest wells in the Griffin pool, a Cypress-sand producer that made 400 bbl. in 5 hours and 10 minutes.

Good saturation was encountered in the Cypress sand around 2,490 ft. in the first wells drilled to the McClosky, but it wasn't until the first week in June that a well was drilled to that sand. Hollandsworth & Bander's No. 1 Hughes-Cooper, C N half SE SE Section 13-3s-14w, found the Cypress sand at 2,496 ft. and was bottomed at 2,517 ft. The well flowed 170 bbl. in 23 hours through ½-in. choke on its initial production test.

This discovery aroused some optimism, and operators with leases in the area began revising their valuations of these properties. Several wildcats started on both sides of the Wabash River in Illinois and Indiana, and operators who had not obtained a foothold in Louden, Salem, or Clay City began to pay heed. The Griffin pool now occupies parts of Sections 12, 13, 24, and 25-3s-14w and nearly all of Section 18-3s-13w. The southern outpost, Joe Bander's No. 1 Cooper, NW NE NE Section 25-3s-14w, pumped 202 bbl. following perforation of the casing at 2,078-2,100 ft., opposite the Waltersburg sand. Casing was set at 2,522 ft.

Digging slush pits in Illinois' Salem field

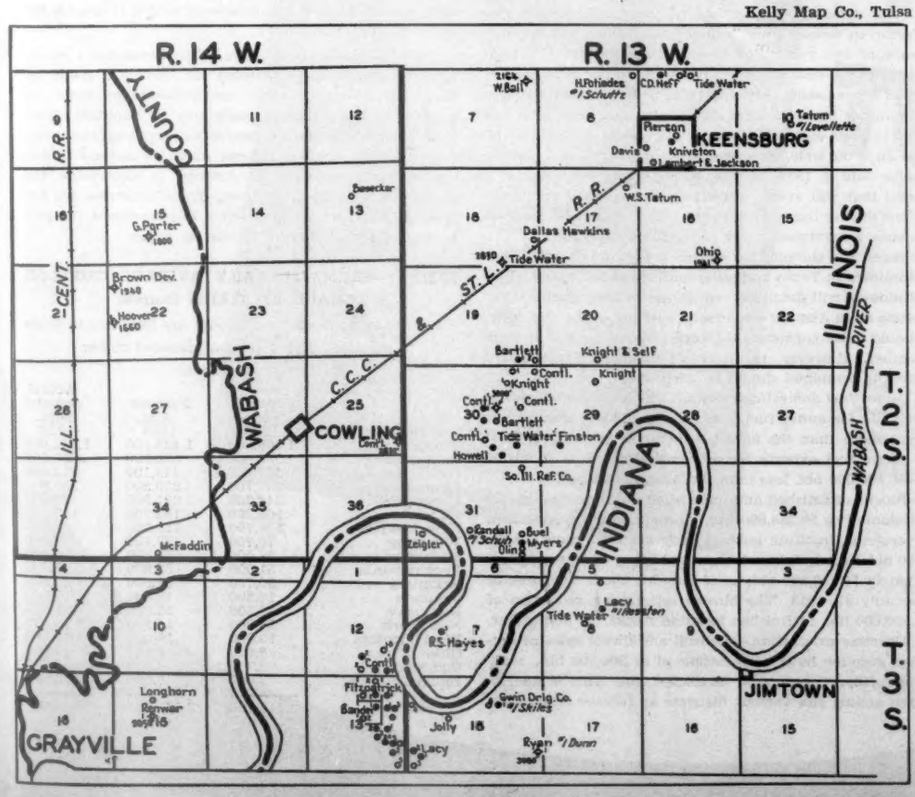
Adding to the territory that may be included in this pool, Choate & Cherry completed No. 1 Heston, C W½ SW NE Section 8-3s-14w, for 312 bbl. of oil and 25 bbl. of water after acidizing the McClosky with 1,500 gal. The north offset to the Heston well limited the area when it was reported a failure at a total depth of 2,962 ft. It was the Lambert Drilling Co. and others' No. 1 Kries, C W½ NW NE Section 8-3s-13w, which reported cutting through a fault of 2,887-90 ft.

The Wabash River was no barrier to the discovery of oil in the area, and W. M. Bartlett's No. 1 Stansfield, SW SE SE Section 19-2s-13w, Wabash County, Illinois, was completed in the Biehl sand (Pennsylvanian age) at a total depth of 1,719 ft. for 208 bbl. a day on the pump. A week later, during the latter part of June, Clyde Washburn completed No. 1 Pfeifer, SW SW SW Section 13-1s-13w, Wabash County, in the Tar Springs sand after finding dry Cypress sand at 2,263 ft. and dry McClosky at 2,556-80 ft. A pair of dry holes about a mile to the north and the south limit the possibilities of this discovery, and it is believed to be a separate pool. However, it served to increase the interest in the area.

The first major sand discovery on the Illinois side of the river was early in August when G. C. Howell and others completed No. 1 B. & A. Schultz, NW SW SE Section 30-2s-13w, Wabash County, in Cypress sand at 2,461-88 ft. The well flowed 25 bbl. per hour through the casing and 408 bbl. through the tubing. The same company later completed the No. 2 on the lease for an initial 134 bbl. in 17 hours through a ½-in. choke.

The sand discovery followed the striking of good McClosky production in Hays & Phillips' No. 1 A. & B. Schultz, SE NW SW Section 7-3s-13w, which had the McClosky at 2,873-81 ft., was acid-

Kelly Map Co., Tulsa



Portion of the Wabash County, Illinois, and Gibson County, Indiana, fields where good wells have recently been completed and where much drilling will be done before the end of this year

ized with 1,500 gal., and pumped 160 bbl. in 12 hours.

Subsequent work in Wabash County has developed some good producing wells and opened a larger territory to prospecting. C. D. Neff, trustee, got a Cypress producer making approximately 300 bbl. daily when he completed No. 1 Bump, NW NE NW Section 9-2s-13w, at a total depth of 2,424 ft. Eason Oil Co.'s No. 1 Schanf, NW SE SE Section 31-3s-13w, swabbed 104 bbl. from the Cypress sand found at 2,470 ft. when it was completed. A direct result of the Bump discovery has been a town-lot boom in the village of Keensburg, with several good completions reported to date.

Discounting the discovery in Section 13-1s-13w, the recent developments along the Wabash River give oil prospectors an area extending from the upper part of Township 2s-13w to almost the bottom of Township 3s-14w, a distance of 10 miles. At its widest point this area is 3½ miles across.

Many geologists claim all of the recent discoveries are connected and are a part of one structure. They point to regularity of the Cypress sand as bearing out this contention. Others agree that there is a strong possibility of this being the case but believe that the area will present void spots and the development of small pools. The area lies close to the La Salle anticline, which has some rather large structures along its flanks farther north which accounted for eastern Illinois fields.

There are nearly 50 tests drilling in the area at the present time, with about 40 of them in reasonably good territory and the remainder wildcats. The drilling wells are widely scattered, with the exception of the Keensburg area, and on completion the present crop should give a good picture of what may be expected from this new territory.

An interesting sidelight is the part the Wabash River may play, with Illinois and Indiana state governments each leasing their respective sides for oil prospecting. The governor of Indiana recently reported that several firms had approached the state on this question, and he gave as his opinion that the state owned from the low-water mark to the center of the river. He also indicated he favored leasing only small strips along the river.

The river development is important because of the course of the stream. It flows southwest across Sections 8 and 7-5s-13w and makes a 180° turn in the upper half of Section 18-3s-13w and flows northeast across Section 7 into Section 31-2s-13w. It then flows westward into Section 36-2s-14w, turns and flows southwest into Sections 11 and 14-3s-14w. The river frontage, as a result of this meandering, is several miles. The position of the federal Government may have some bearing on development, as the Wabash was at one time navigated beyond this point. Presence of the river also adds to the operating difficulties, as much of the surrounding territory is flooded during the spring months. All machinery is set on substructures.

Another factor influencing rapid exploitation of the area is the diversity of lease ownership. Continental Oil Co. has nearly 6,000 acres in the vicinity, and Tide Water Associated, Phillips Petroleum Co., and Superior Oil Co. of California all own rather large spreads. W. O. Allen, Hollandsworth & Bander, and Lewis Production Co. are among the independents in the field. Carter Oil Co., Pure Oil Co., Magnolia Petroleum Co., and Texas Co. are not so well represented. This places the Illinois-Indiana field in competition with the other large pools in the area, which, added to the diversity of ownership, should produce a lively drilling campaign.

A major obstacle at present is the lack of ample pipe-line facilities to get the crude out of the field. Sohio Corp. and the Merrimac Pipe Line Co. are the only purchasers in the area, both having pipe lines southward to the Ohio River. Sohio recently announced the construction of a new 6-in. line from Griffin to a point near Mount Vernon, Ind., where a barge terminal will be used for loading for shipment up the Ohio River. Sohio has a refinery at Covington, Ky., upstream and has been using barges for a number of years in the shipment of western Kentucky crude to the market. An independent refinery at Evansville takes part of the crude production.

The price posted by Sohio was under the Illinois market until the recent reductions in other areas. For several months the lime production in the area has been bringing 80 cents and the sand oil 85 cents. The gravity of the crude is comparable with that in the Central and western basin areas. Until more large buyers enter the field the operators are expecting an unfavorable market situation, but the size of the wells and the low investment costs will encourage drilling.

A number of dry holes have been drilled in the vicinity, most of them since January 1938. Magnolia Petroleum Co. completed a duster in July 1939 in the SW SW NE Section 30-2s-13w; Longhorn Oil Co. got a dry hole on its No. 1 Edith Helm, SE SE NW Section 15-3s-14w, early in April 1939; Tide Water Associated Oil Co. chalked up a failure in the SW SW SE Section 18-2s-13w in March of the present year. Superior Oil Co. abandoned a test in Section 15-5s-14w, White County, Illinois, late in July, and Buell & Hannah got only slight shows in their test, SW NE SE Section 31-2s-13w, Wabash County. A test drilled by J. Liggett in NE NW NE Section 32-3s-14w swabbed 185 bbl. of fluid estimated as containing 27½ per cent oil.

Five failures have been drilled since the discovery to indicate the extent of the field on the Indiana side. These include tests in Sections 18-3s-13w, 19-3s-13w, 25-3s-13w, 10-4s-13w, and 8-3s-13w.

Coupled with the discovery early in July of heavy Aux Vases-sand production in White County, Illinois, the new field, or fields, around the Wabash will aid in attracting producers from the western side of the basin to the eastern side of the state. If it develops the flush production expected of it by some enthusiasts, it may also be a lively contender for much of the market held by the sand fields in Marion and Fayette counties, Illinois.

September Domestic Demand Up 7 Per Cent

The daily average supply of domestic crude oil estimated by the Bureau of Mines to meet the market demand in September 1939 is 3,510,700 bbl., 11,200 bbl. less than the estimated demand for August but 3 per cent more than actual demand in September 1938. Although the total motor-fuel demand for September 1939 is estimated at 7 per cent above the actual of a year ago, the anticipated crude-oil demand is only 3 per cent higher, mainly because the withdrawal from gasoline stocks for this September as predicted is higher than the subnormal withdrawal as the result of the poor weather last September.

Daily average crude-oil production and runs to stills during the four weeks July 1 to 29 were 3,564,000 and 3,424,000 bbl., respectively. Crude-oil stocks declined 2,937,000 bbl., 471,000 bbl. being foreign stocks, leaving a net decline in domestic crudes of 2,466,000 bbl., or 88,000 bbl. daily. The addition of this stock decline to the production indicates that the apparent demand for domestic crude oil during July was 3,652,000 bbl. daily. This was 139,000 bbl. in excess of the bureau's estimate, reflecting chiefly less than normal seasonal withdrawals from gasoline stocks.

The demand for distillate fuel oils will be a major factor in determining refinery operations for the balance of the year. For the first six months the total demand for distillate fuels has been 20 per cent greater than for the same period in 1938, while the total demand for motor fuel increased only 5 per cent. Stocks of distillate fuels east of California were only 15,388,000 bbl. on June 30, 1939, compared with 16,516,000 bbl. for the same date in 1938. If runs to stills are to be kept at a level that will avoid excessive gasoline stock accumulations during the winter, every effort should be made to secure a maximum yield of distillate fuel oil.

Since the compilation of this report was started, the shutdown in Texas and other states was instituted. This shutdown will doubtless reduce the refinery demand for crude oil in August; conversely, a lifting of the shutdown should raise consumer deliveries above normal in September. However, the bureau's estimates for the two months combined should be adequate.

Motor-fuel domestic demand.—The estimated domestic demand for motor fuel is 49,100,000 bbl., or about 7 per cent more than the actual demand in September 1938.

Motor-fuel exports have been estimated as 4,000,000 bbl., 200,000 bbl. less than the August forecast.

Stocks of finished and unfinished gasoline on June 30 amounted to 80,288,000 bbl. Statistics of the American Petroleum Institute indicate they declined about 3,840,000 bbl. during July, which would bring them to approximately 76,450,000 bbl. as of July 31, about the same as for July 31, 1938. The bureau estimates a reduction of 3,800,000 bbl. in finished gasoline stocks for September.

Gasoline production.—Benzoil and direct sales of natural gasoline have been estimated as 900,000 bbl., making refinery production 48,400,000 bbl. This is distributed among the various districts as follows (thousands of barrels): East Coast, 6,350; Appalachian, 1,760; Indiana-Illinois, 8,630; Oklahoma, 2,870; Kansas-Missouri, 2,520; Inland Texas, 3,570; Texas Gulf Coast, 12,880; Louisiana Gulf Coast, 1,490; Inland Louisiana-Arkansas, 890; Rocky Mountain, 1,200; California, 6,240.

Runs to stills.—Natural gasoline to be blended at the refineries is estimated as 7.1 per cent of the total gasoline production, or 3,440,000 bbl. The yield of straight-run and cracked gasoline, low during recent months because of the large runs of foreign crude, is estimated as 44.8 per cent. The application of this yield to the production of 44,960,000 bbl. gives crude runs of 100,320,000 bbl., or 3,344,000 bbl. daily. It is possible the suspension of production will result in the importation of additional foreign crude. This might be reflected in higher foreign crude runs in September, hence the bureau estimates foreign crude runs at 3,000,000 bbl. in September, less than in August but far above the actual of September 1938.

Exports of crude oil are estimated as 6,400,000 bbl., or 600,000 bbl. less than for August. The estimate for fuel and losses is 1,600,000 bbl.

Total demand for domestic crude oil in September 1939, as indicated by the estimates above, is 105,320,000 bbl., or 3,510,700 bbl. daily.

Crude-oil demand by states.—The breakdown of the total estimated daily demand for domestic crude oil gives the following crude requirements by states of origin. As these requirements may be supplied either from stocks or from new production, contemplated withdrawals from crude-oil stocks must be deducted from the bureau's estimate of demand to determine the amount of new crude required. These estimates are not recommendations for production but represent the projection of actual market trends by states.

TABLE 1—ESTIMATED DAILY AVERAGE CRUDE-OIL DEMAND BY STATES (Barrels)

(As no changes in crude-oil stocks are involved in these estimates, they represent demand rather than producion)

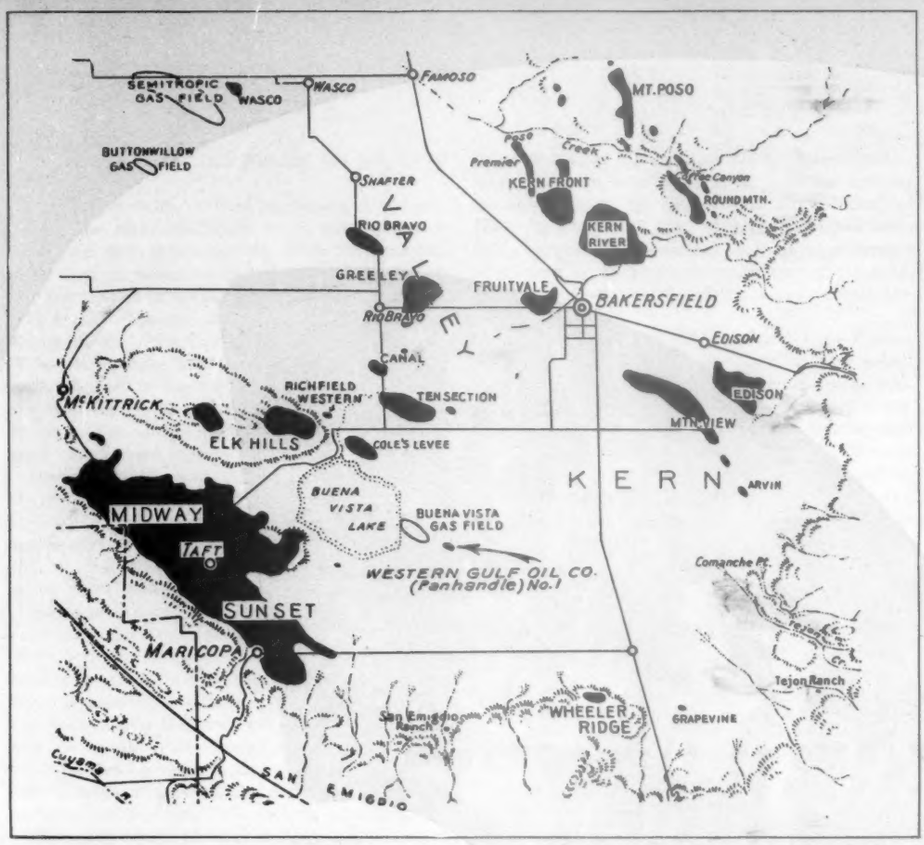
State—	Forecast Sept. 1939	Forecast Aug. 1939	Actual demand Sept. 1938
Texas	1,408,300	1,428,100	1,342,000
California	596,000	595,100	651,000
Oklahoma	429,300	448,100	512,000
Louisiana	255,700	259,300	251,000
Illinois	248,700	201,900	72,000
Kansas	166,300	168,700	163,000
New Mexico	108,700	111,000	97,000
Wyoming	70,700	77,100	81,000
Michigan	55,000	54,200	51,000
Pennsylvania	51,000	52,900	48,000
Arkansas	50,700	51,900	55,000
Montana	16,300	16,400	17,000
Kentucky	15,300	15,000	21,000
New York	14,000	16,000	12,000
West Virginia	10,000	11,000	10,000
Ohio	8,000	8,400	10,000
Colorado	3,700	3,900	5,000
Indiana	3,000	2,900	3,000
Total	3,510,700	3,521,900	3,401,000

A CASUAL look won't reveal any startling differences between Tube-Turns and "competitive" fittings for welding. But judging by comparison of *cut-away sections*, you'll discover a difference that is highly worth your *rigid specification* . . . We will gladly furnish a sample Tube-Turn for you to cut and test. For obvious reasons, we suggest that you buy both the Tube-Turn and the "competitive" fittings from local distributors' stocks.

WE ASK YOU TO TEST TUBE-TURNS!

The word "Tube-Turn" is NOT a necessary general trade name for welding fittings. It is the registered trade-mark for the products made by Tube-Turns, Incorporated, under their patents.

TUBE-TURNS
Incorporated
LOUISVILLE, KY.



Location of Panhandle field of Kern County with respect to other fields in lower end of San Joaquin Basin

Fourth Discovery in California

By L. P. STOCKMAN

LOS ANGELES, Calif., Aug. 28.—California's fourth new discovery of 1939 was made when a joint wildcat of Western Gulf Oil Co. and Texas Co. in the Panhandle district of Kern County in Section 3-32-26 was brought in flowing at the rate of 1,000 bbl. of 50-gravity oil and 3,000,000 cu. ft. of gas per day from the Stevens zone with bottom of the hole at 10,178 ft. The initial daily production assigned this new well is computed as the well was permitted to produce for only 2 hours due to lack of storage. During this 2-hour period it produced 82 bbl. of 50-gravity oil and was still building up when the gates were closed indicating it may show much higher production. No. 1 Panhandle in which Texas Co. and Western Gulf Oil Co. each have a 50 per cent undivided interest was drilled by Drilling & Exploration Co., Inc., headed by J. E. Brantley. The hole was finished with 1,222 ft. of 13⅜-in. surface casing and 9,997 ft. of 7⅝-in. casing landed above the pay. The well was brought in barefoot as no pipe was landed below the shoe of the 7⅝-in. water string.

No. 1 Panhandle was still in the pay when drilling was concluded at 10,178 ft. and, shortly after completion, Western Gulf contemplated re-entering the hole and deepening but later decided to run in a liner and complete in the conventional manner with the probability the well will be on steady production early in September.

Because of the interest of Texas Co. in this block of acreage, approximately 2,600 acres, it is assumed this company will run the oil in which event it will have either to lay a new line into the field or make arrangements to have some other pipe-line operator move production to pipeline facilities of Texas Co. Valley Pipe Line Co., owned jointly by Seaboard Oil Co. and Texas Co., has an 8-in. line from Kettleman Hills to tidewater at Estero Bay in San Luis Obispo County but this appears too far removed from the Panhandle field to justify the necessary line until production increases, so arrangements probably will be made to have some other operator move production for the present.

Conservative Development

Acreage in the field is held in relatively large blocks and development will be along conservative lines. Potentially productive acreage is held by several operators and if the field proves large in area the number of participants will accordingly increase. Ohio Oil Co. will probably benefit to a large extent due to its large holdings immediately adjacent to the section in which the discovery well was located. This company has leases on all of Section 4-32-26, the north half of Sections 9 and 10 as well as 480 acres in Section 33-31-26 and 160 acres in the northwest quarter of the section where the discovery is. Union Oil Co. holds leases on the northwest and southeast quarters of Section 34-31-26 immediately adjoining the discovery acreage on the north as well as some other widely spaced acreage. Barnsdall Oil Co. holds a lease on the south half of the southwest quarter of Section 34-31-26 and Texas Co. has a lease on the north half of the southwest quarter of the same section. Superior Oil Co. holds a lease on the northeast quarter of Section 34-31-26. Signal Oil & Gas Co. holds a lease on the Moody property in the southern end of Section 10-32-26 and Hancock Oil Co. a lease on the Breck property approximating 40 acres in Section 9-32-26.

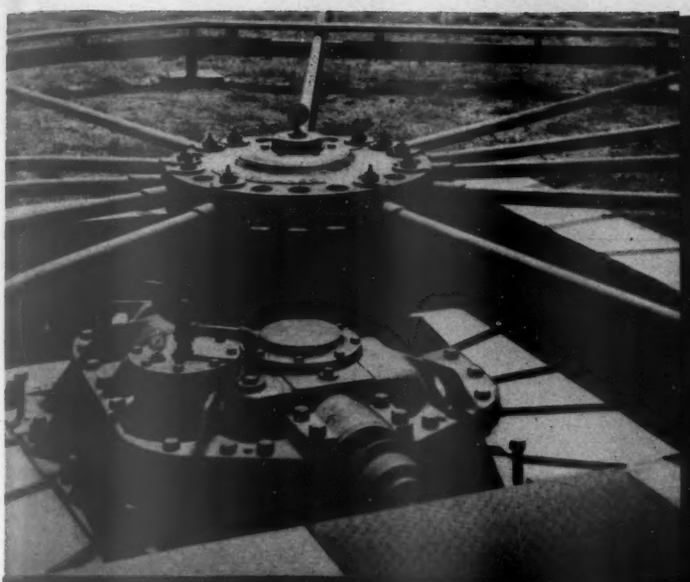
Subsurface conditions in the field are relatively soft and therefore conducive to rapid drilling although a hard streak just above the Stevens zone slows up drilling to some extent. Topography consists of a broad flat area with little indication of structure. This discovery was made by reflection seismograph which indicated the existence of a buried structure. The field is about 18 miles southwest of Bakersfield, county seat of Kern County. Excellent roads and easy access mark the location of the discovery. Top of the Stevens oil sand was logged in No. 1 Panhandle at 10,015 ft. and a formation test made previous to the conclusion of drilling failed to show oil at 10,008-10,121 ft. although the well flowed at the rate of 4,000,000 cu. ft. of gas per day. With the tester open 57 minutes gas reached the surface in 25 minutes and the condensate in 27 minutes with no free oil. The hole was then drilled to 10,178 ft., completion depth, and brought in under a natural flow.

Stratigraphy

The Stevens zone which has been found productive in the field has likewise proved highly productive in the Ten Section field where it was first found productive, as well as in the Greeley, Cole's Levee, Tupman and Canal fields. The Rio Bravo zone which underlies the Stevens zone in the Greeley field is expected ultimately to be found productive in all of this group and thus the Panhandle field may also contain a deeper productive zone.

Stratigraphy of the Panhandle field is expected to be more or less similar to that existing in the Buena Vista Lake gas field immediately to the west and in general the section should be similar to that of the Ten Section and Canal fields to the north. Transition from lower Pliocene to upper Miocene in No. 1 Panhandle was noted at 9,468 ft. but the change was very gradual, there being no marked break as the Pliocene graded into Miocene. Top of the Stevens zone in the discovery well was very tight and lacked sufficient porosity to permit a natural flow of oil although it appeared to be rather well saturated. The lower part of the hole, however, contained some shale breaks and the size of sand grains and porosity increased. A similar situation was found in the Buena Vista Lake gas field where the sand, although showing considerable saturation, proved too tight to produce. The deep well in the Buena Vista Lake gas field was Ohio Oil Co.'s No. 8-A Kern County Land abandoned as unproductive at 11,186 ft. The Buena Vista Lake gas field is a little over 2 miles west of the discovery well in the Panhandle field. The map accompanying this shows the location of the Panhandle field of Kern County with respect to other fields in the lower end of the San Joaquin Basin. A detailed map showing ownership in the area appeared in The Oil and Gas Journal issue of August 24, 1939.

The Panhandle field is the third field to be found in Kern County this year. Standard Oil Co. and Superior Oil Co. started off by opening up the Arvin field on February 24 and Amerada Petroleum Corp. followed suit by completing a discovery well in the Northeast Coalinga field 4 miles north of the Southeast Coalinga field in April. On June 11, Tide Water Associated Oil Co. completed a discovery well in the Strand district of Kern County in conjunction with Continental Oil Co.



Continental-Falk Geared Powers are built in sizes that make for economical and practical installations. Continental recommendations as to size are based on the limitations imposed by rod line pumping.

You'll Find Your Answer Here...

Continental-Falk Twin Crank Unit Pumpers—from the largest size single reduction unit to the smallest practical size double reduction unit—are all suited for 24-hour service and heavy loads.

Continental installation of Multiple Well Hook-Ups using Continental-Falk single and double reduction gears permits a wide selection to meet any condition where such an installation is economical and practical.

No Matter What Your Pumping Problem

Individual conditions have much to do with the selection of proper pumping equipment. Geared Power—Unit Pumper—Multiple Well Hook-Up . . . each offers certain advantages. But no matter what the condition, it is never good operating practice or good economy to compromise quality in pumping installations.

In its recommendations on pumping, The Continental Supply Company bears constantly in mind the meaning of ultimate recovery and final costs. You can depend on these recommendations with full knowledge that this company is adhering to a long established policy based on sound engineering and economical principles.

THE CONTINENTAL SUPPLY COMPANY

General Offices: DALLAS, TEXAS

Export Office: CONTINENTAL EMSCO CO., Inc.
30 Rockefeller Plaza New York City, N. Y.

Representatives:
LONDON MARACAIBO BUENOS AIRES TRINIDAD TAMPICO

"Serving the Oil and Gas Industries"

Continental

Pipe Line-Activity

Tractors with side booms handling pipe on a pipe-laying job in Illinois

Texas Commission Hearing On Pipe Line Regulation

FORT WORTH, Tex.—A call for a Railroad Commission hearing on pipe-line rates and regulations is being prepared, according to Col. Ernest O. Thompson, who repeated figures which he read at the commission hearing at Austin, purporting to show that Texas' leading pipe lines had made net profits of $454,000,000 on an investment of $480,000,000 in the years from 1930-37, inclusive. Gross earnings by pipe lines for the same period were in excess of a billion dollars, Colonel Thompson said, the figures quoted being net profits after all charges had been deducted.

Colonel Thompson is proposing a 5-cents-per-barrel tax on oil transported by pipe line for old age pensions, pipe-line rates being held to present levels. Earlier, he had indicated he favored a tax of 5 cents per barrel on oil produced.

Meanwhile a report from San Antonio said oil men in San Antonio are giving serious consideration to the constitutional amendment voted in August 1937 but which did not take effect until January 1 of this year which provides that no property of any kind can be assessed for ad valorem taxes at greater than its cash market value.

Under this amendment it is believed that the intangible value of oil and gas pipe lines no longer can be considered or assessed for ad valorem taxes. Under the old constitutional provision property was to be assessed at its market value but in case there was no market value then at its real or intrinsic value and courts held boards of equalization were the final authority in fixing values and from their decision the taxpayer had no appeal.

The new constitutional amendment for the first time fixes a ceiling to valuations. There always has been a maximum limit to rates of taxation. Oil-producing properties, refineries, and all such all over the state will enjoy the benefit of the new amendment, San Antonio oil men believe.

Work Is Begun on Magnolia Kilgore Gasoline Line

FORT WORTH, Tex.—Work on the Magnolia Petroleum Co. 192-mile gasoline line from Kilgore to Beaumont via Center is under way. A. B. Jones Construction Co. is in charge of construction and has started crews working at Kilgore and Center.

The line, which begins 4 miles north of Kilgore, will range from 4 to 10 in. and have a daily capacity of 4,000 bbl. The company has contracts with five East Texas casinghead gasoline plants.

West Columbia-Webster Line Contract Is Let

FORT WORTH, Tex.—The Texas Pipe Line Co. has let a contract to Williams Brothers for construction of a 42-mile 8-in. welded pipe line from West Columbia to Webster, where it will tie into the company's line to Texas City. Work will start in about 3 weeks. Williams Brothers will paint and wrap the line as it is laid.

Williams Brothers have finished a 20-mile 6-in. welded line for Standish Pipe Line Co. from League City in Galveston County to Phillips Petroleum Co.'s terminal at Pasadena (Houston).

City Manager George D. Fairtrace of Tyler said H. L. Hunt's son-in-law, Al Hill, of Dallas and Fort Worth, now owner of the Chapel Hill gas distillate producer in Smith County, has been figuring on possible costs of running a pipe line to the city of Tyler to supply gas for use by industrial concerns.

Cayuga-Mexia Line Is 70 Per Cent Completed

FORT WORTH, Tex.—Construction of the pipe line from the Cayuga field to Mexia is now 70 per cent complete. The line is being constructed by Stanolind Oil & Gas Co. to connect Cayuga producing properties with the company's trunk carrier near Mexia. Part of the line is 6-in. and part 8-in. It will be placed in service within the next few weeks.

Kansas Gathering System

WICHITA, Kans.—The new gathering system of the Kaw Pipe Line Co., giving the Clawson, west Ellinwood and Marchand pools of Barton County an outlet to Kaw's lines in South Silica, is practically complete.

Louden Line Running Crude

ST. ELMO, Ill.—Fayette County's marketing problem was aided when the Louden Pipe Line Co., subsidiary of Pana Refining Co., began running crude to the recently completed $300,000 refinery at Pana.

Refinery Expansion

Union Finances $2,000,000 Expansion Program

NEW YORK.—Public offering has been made of a $30,000,000 issue of Union Oil Co. of California 3 per cent 20-year debentures at 103, it was reported in Wall Street. Dillon, Read & Co. heads the selling group.

Around $20,000,000 of the proceeds will be used for redeeming outstanding bonds with higher coupon rates and the remainder may be used for plant expansion and modernization. The company contemplates building a new $1,900.000 tank ship, a $1,250,000 alkylation-dehydration plant at Los Angeles, and a new $750,000 vacuum unit at the Oleum refinery, San Francisco Bay.

Enlarge Toledo Plant of Standard Oil of Ohio

TOLEDO, Ohio.—The Standard Oil Co. of Ohio awarded contract to the M. W. Kellogg Co., New York, for additions and improvements to its crude oil refinery here to cost more than $100,000 and include the installation of a catalytic polymerization plant.

Milwaukee Preparing for Standard Oil Plant

MILWAUKEE, Wis.—Contracts have been awarded by the city harbor commission for laying new railroad tracks, changing existing tracks and building roadways on Jones Island, in compliance with terms agreed upon by the common council and Standard Oil Co. of Indiana under which the company leased 9.5 acres of the city's harbor property on Lake Michigan for a tank farm. Standard Oil is now building foundations for the seven tanks which will have a storage capacity of 9,285,000 gal. of gasoline and oil. The company will spend $200,000 in constructing the farm. The city will get about $20,000 annually in fees and rentals, and is spending $35,000 on facilities. The site is north of two other tank farms of Shell Oil and Clark Super Gas.

3,000-Bbl. Refinery to Be Built at Hastings, Neb.

John Lovell will be named vice president of the new 3,000-bbl. refinery at Hastings, Neb., according to unofficial reports from that area. The new firm is headed by M. H. Robineau, formerly with Bay Oil Co. The refinery is to be supplied with crude from unconnected fields in Rooks and northern Ellis counties, in Kansas.

Dr. Sanders, Superintendent of Standard Toledo Refinery

Dr. F. J. Sanders, head of the technical service division of Standard Oil Co. of Ohio since 1934, has been named superintendent of the company's Toledo refinery, succeeding J. Blake Middleton. Mr. Middleton, who went to Toledo from Cleveland in 1936, has been named foreign representative of Socony-Vacuum Oil Co., Inc., and will be in charge of its refinery operations in Europe with headquarters at The Hague. Dr. Sanders is a graduate of Texas Technological Institute and received his doctor's degree in chemical engineering at Yale University.

Natural Gasoline

W. H. WHEELDON PAUL C. COFFIN J. M. KINDLE

Lone Star Announces Changes in Personnel

Promotion of W. H. Wheeldon, of Ranger, Tex., to the position of assistant superintendent of gasoline plants for Lone Star Gas Co., effective August 15, is announced by Elmer F. Schmidt, vice president and operating manager for the company. Mr. Wheeldon succeeds Paul Coffin who has resigned to become general superintendent for the Shamrock Oil & Gas Co., with headquarters at Amarillo, Tex. The Shamrock firm has no connection with the Lone Star system, Mr. Schmidt said.

J. M. Kindle, superintendent of Lone Star's gasoline plant at Trinidad, Tex., has been named to succeed Mr. Wheeldon as superintendent of gasoline plants in the gas system's West Texas district, with headquarters at Ranger.

Mr. Wheeldon had been superintendent in the West Texas district since 1931. In his new position as assistant to J. R. Jarvis, superintendent of gasoline plants, he will aid in operation of the system's 10 gasoline plants. Mr. Wheeldon has been with the company since his graduation from Texas A. & M. College in 1922, and has served in most of the company's major plants. He became superintendent of the company's Gainesville gasoline plant in 1925, the Petrolia plant in 1926, and the Gordon plant in 1927. From Gordon he was promoted to West Texas district superintendent.

Mr. Coffin had been with Lone Star since 1922, beginning as laboratory man at the Petrolia plant. He had been assistant superintendent of gasoline plants since June 1927.

July Plant Operations on Pacific Coast

	Gas treated (Thou.cu.ft.)	Natural gasoline produced (gal.)	Plants Operating—Number	Plants Operating—Da. Cap. (MCF)
San Joaquin Valley—				
Beiridge	3,421,746	1,923,873	3	220,000
Elk Hills	90,869	135,311	2	10,000
Kettleman Hills	7,639,872	12,562,896	8	563,000
Midway-Sunset	951,657	1,874,508	9	64,500
Mountain View	243,066	323,071	2	30,000
Miscellaneous	981,915	723,958	5	78,300
Coastal District—				
Elwood	407,097	550,505	3	62,500
Rincon	116,943	173,053	2	11,500
Santa Maria	136,276	449,108	3	11,000
Ventura Avenue	3,339,045	5,107,372	5	163,000
Miscellaneous	469,147	502,865	4	44,500
Los Angeles Basin—				
Brea-Olinda-Coyote	536,095	1,325,763	5	45,000
Dominguez	1,245,444	2,160,223	2	69,000
El Segundo	57,831	150,706	1	17,000
Huntington Beach	885,577	2,791,605	5	81,500
Inglewood	242,199	343,972	1	10,000
Long Beach	2,331,781	7,240,182	9	137,000
Montebello	1,028,035	779,618	1	18,000
Richfield	312,640	592,132	2	30,000
Rosecrans	1,028,374	1,066,046	4	44,000
Santa Fe Springs	1,470,520	4,868,512	6	179,500
Seal Beach	385,438	529,176	1	17,000
Torrance	498,571	1,224,524	3	21,000
Miscellaneous	1,249,939	2,313,741	5	103,000
Total (all fields)	29,070,077	49,712,720	91	2,030,300

DISTRIBUTION

	(Gallons)	(Gallons)
Stocks beginning of month	3,207,824	
Production during month	49,712,720	
Delivered to refineries		48,377,152
Delivered to jobbers, brokers, or blenders		534,775
Blended at plants for production of motor fuel		11,306
Losses		135,110
Stocks at end of month		3,862,201
Totals	52,920,544	52,920,544
Liquefied petroleum gas production	2,533,477 gal.	60,321 bbl.
Motor fuel produced	15,507 gal.	369 bbl.

California Gasoline Sales Increased

SACRAMENTO, CALIF.—Gasoline sales throughout California continued to show substantial gains during the month of July, the State Board of Equalization reports.

Based on the distribution of 159,330,813 gal., the tax last month amounted to $4,779,924.39, a gain of $231,777.54 or 5.1 per cent over the same month of the previous year.

The July assessment brought the gasoline tax income for the first 7 months of the year up to $30,891,879.77. This represents a gain of $1,325,879.70 over the same period of 1938, the board reported.

Natural Gas

Republic Natural Gas Co. Borrows $5,600,000

Republic Natural Gas Co., operating in the Hugoton field of Kansas and the Saxet field of Texas, has borrowed $5,600,000 privately from the Metropolitan Life Insurance Co., and National City Bank.

Announcement of the transaction was made by W. H. Wildes, president of Republic, who said the loan, which will run for 12 years and is secured by a first mortgage on the company's gas contract, is at a rate to net the company about 3¼ per cent. The proceeds will be used to retire the company's 6 per cent first mortgage bonds, and outstanding bank loans.

Gas Supply for 50 Years, Says Gas Association

Although less than 12,000 of the 3 million square miles in the United States have proved to contain gas, these are so rich in resources that reserves of natural gas are increasing steadily. A number of large gas utilities now have reserves that are from two to four times what they were in 1930, according to the American Gas Association.

Recent surveys of gas fields in Kansas, Oklahoma, Texas and other states distributing gas to distant markets have disclosed a supply of gas plainly outlined that will take care of domestic, commercial and industrial needs for nearly 50 years. This does not take into consideration discoveries of additional reserves occurring every day. Further, supplies of coal for manufactured gas utilized in areas not supplied with natural gas are practically inexhaustible, the association says.

Danville Grand Jury Will Resume on Thursday

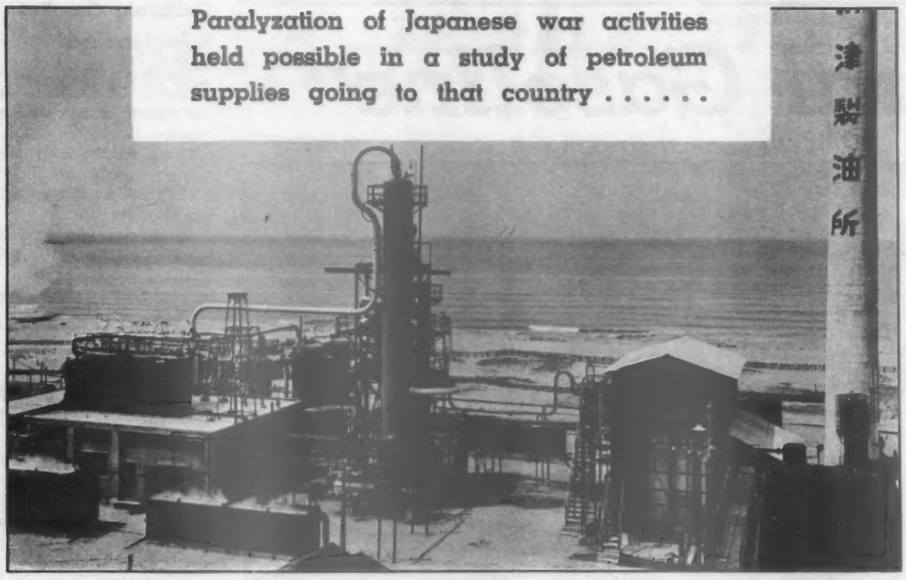
DANVILLE, Ill., Aug. 26.—The special federal grand jury investigating alleged gasoline price fixing by major oil companies in 10 middle western states will resume its inquiry August 31.

The jury began its inquiry June 6 after three companies unsuccessfully attempted to have the investigation quashed. It recessed June 23. Atty. Gen. Frank Murphy said the grand jury action here, the second in its antitrust campaign in the oil industry, was necessitated by indications that practices on which the oil trial at Madison, Wis., in 1936 were based "have not been wholly abandoned in the oil industry."

Yazoo County, Mississippi, Reports Discovery

SHREVEPORT, La., Aug. 29.—Union Producing Co.'s No. 1 G. C. Woodruff, Section 13-10n-3w, Yazoo County, Mississippi, 36 miles northeast of Vicksburg, cored at 4,540-60 ft. recovering 17 ft. of core, the upper section light gray lime, interbedded with 8 in. to 1-ft. streaks of oil sand; bottom section dark gray sandy shale. On 15-minute drill-stem test at 4,540-60 ft. using ½-in. chokes, top and bottom, working pressure was 14 lb. Reported recovery was 42 thribbles of 32.8-gravity oil, running Schlumberger; total depth 4,560 ft.

Paralyzation of Japanese war activities held possible in a study of petroleum supplies going to that country . . . . . .



General view of cracking plant in Japan. Steel-plate and structural-steel work built by Japanese

Embargo on Petroleum Would Seriously Cripple Japan

By V. R. GARFIAS

Cities Service Co.

ON July 26 Secretary of State Cordell Hull notified Japan that the United States was abrogating the 1911 treaty of commerce and navigation, the abrogation to become effective in January 1940 in accord with the treaty provision for a 6-month notice.

It is felt by many that this notice is a preliminary step toward the imposition of trade restrictions against Japan. In fact, Senator Pittman, chairman of the Senate foreign relations committee, recently stated that unless the attitude of Japan toward American citizens in China improved materially, Congress would authorize retaliatory measures at its next session, probably the imposition of an embargo on exports of war supplies. It is the purpose of the present study to show that if such a step takes the form of a petroleum embargo it will under certain conditions paralyze the war activities of Japan.

Petroleum Requirements of Japan

For several years prior to the invasion of China the Japanese consumption of petroleum products had been gradually increasing. With the inception of hositility, consumption rose sharply, although the volume allowed for civil needs was sharply curtailed. The following table, which shows the petroleum consumption for civil purposes alone, indicates this reduction and the magnitude of Japan's petroleum needs.

PETROLEUM CONSUMPTION FOR CIVIL PURPOSES

(In barrels)

	1937	1938	1939*
Motor fuel	10,400,000	7,800,000	7,300,000
Kerosene	2,000,000	1,500,000	1,500,000
Gas and fuel oil	16,500,000	11,800,000	11,800,000
Lubricants	2,500,000	1,800,000	1,800,000
Miscellaneous	2,700,000	2,100,000	2,000,000
	34,100,000	25,000,000	24,400,000

*Estimated.

It is a difficult matter to ascertain the petroleum consumption for military purposes of any of the major powers, with the exception of the United States, and this is particularly true in the case of Japan since the beginning of the war in China. The following table therefore can represent only a gross approximation of the total consumption, including that for military purposes:

PETROLEUM CONSUMPTION

(In barrels)

	For civil purposes	For military purposes*	Total
1937	34,100,000	7,000,000	41,100,000
1938	25,000,000	21,000,000	46,000,000
1939*	24,400,000	16,000,000	40,400,000

*Estimated.

Sources of Supply

To meet this demand Japan is assured only of its domestic production, including synthetic fuels, and of a portion of the Sakhalin Island output, but as shown in the following table this production aggregates a very small part of the total requirements.

PETROLEUM PRODUCTION OF JAPAN

(In barrels)

	Japan and Formosa	Sakhalin Island	Total
1937	2,487,000	600,000	3,087,000
1938	2,520,000	500,000	3,020,000
1939*	2,600,000	500,000	3,100,000

*Estimated.

It should be noted, however, that even this meager supply is not assured, as continuous and increasing obstacles are being raised by Russia on the availability to Japan of its share of the Sakhalin Island production. All the Sakhalin oil comes from the northern part of the island in Russian territory and can be exported only during 4½ months, as the island's northern waters are frozen the remainder of the year. The production of the Sakhalin field during the last 3 years is shown in the following table which shows that even the entire output of the Sakhalin field is but a very small fraction of the Japanese requirements.

SAKHALIN ISLAND PETROLEUM PRODUCTION

(In barrels)

1937	1,780,000	600,000	2,380,000
1938	1,900,000	500,000	2,400,000
1939*	2,000,000	500,000	2,500,000

*Estimated.

Practically the entire petroleum requirements of Japan are imported as shown in the following table:

JAPANESE PETROLEUM IMPORTS

	California	East Indies	Others	Total
1937	25,000,000	10,000,000	3,000,000	38,000,000
1938	30,000,000	10,000,000	3,000,000	43,000,000
1939*	19,400,000	14,600,000	3,300,000	87,300,000

*Estimated.

It should also be noted that quality as well as quantity of oil must be considered in meeting a nation's requirements. Thus it may well be that in some cases the quantity may be ample but may fail to meet such requirements as aviation gasoline and lubricants.

East Indies Limited Exports

In case the United States imposes a petroleum embargo, Japan would be immediately deprived of the California supply and be compelled to look elsewhere, apparently to the nearby fields of the East Indies, for its total requirements. The following table showing the production of these fields during the last 3 years may give the impression that Japan could make good the loss of California petroleum

(Continued on Page 98)

TAKE ON THESE *Profitable* PARTNERS

FITABLE PARTNERS, and how! Put International Industrial Tractors to work and the cost records will soon show you new lows in operating costs and new highs in work accomplished.

It's this unequaled *performance-per-dollar* that is turning the tide to International.

When you go over International design and construction, you'll see feature after feature . . . all engineered into these units to keep a higher percentage of the maximum drawbar horsepower continuously applied to get the most work done per day at the lowest possible cost.

Get the benefits of International Harvester's experience as the world's leading maker of tractors. Put your power problems up to the nearby International industrial power dealer or Company-owned branch. And be sure to see the new 70 h.p. (drawbar) TD-18 Diesel TracTracTor—it's way out ahead in the big heavy-duty crawler field.

INTERNATIONAL HARVESTER COMPANY
(INCORPORATED)
180 North Michigan Avenue Chicago, Illinois

International

Brazil . .

Reported Negotiating For Refinery at Rio

REPRESENTATIVES of Brazilian interests are reported to be negotiating in the United States for the construction of a refinery at Rio de Janeiro to handle approximately 25,000 bbl. of oil a day. If arrangements can be made, it is reported, the crude petroleum will be purchased in Mexico. Travelers in Mexico from Brazil report arrangements already have been discussed for the purchase of Mexican oil for cash, and indicate that, if the deal for a refinery can be closed, the Brazilian oil industry will be nationalized, with marketing facilities of Standard Oil and other importing companies taken over, to handle the products of the proposed local plant.

The important problem of financing the deal remains to be worked out. Whether funds could be obtained in the United States is questionable in view of the adverse effect the project might have on domestic oil interests in Brazil.

Italy . .

Substitute Fuels for Gasoline Encouraged

STEADILY increasing in importance in Italy is the question of substitute motor fuels, a factor which is considered an important contribution to the self-sufficiency drive in which this country has been engaged. Of all the raw materials being sought in Italy, crude oil for the manufacture of motor fuels, perhaps, is the most hopeless because of the very limited supplies of mineral oils in Italy. It is the intent of the government, however, to limit the consumption of gasoline to the greatest extent possible in order to reduce imports of crude oils, the importation of which is one of the most important items in the Italian import trade. A reduction in the consumption of gasoline would be effected by the use of substitute motor fuels which the government actively encourages.

The use of methane gas, a fair supply of which is reported to exist in North-Central Italy, has been found to offer only limited possibilities. But more promising and of much easier adoption is the use of gasogen. This hydrocarbon gas, generated by a simple wood or charcoal burning apparatus installed in the auto, is being used in a steadily growing number of autobuses, particularly, and, to a smaller extent, of motor trucks. Its use is constantly recommended by the government as a "hundred per cent autarchi fuel." and operators of bus lines are encouraged by special prizes and facilities to purchase gasogen-operated vehicles or to transform those operating on gasoline.

The Ministry for Communications acting upon the opinion rendered by a committee instituted for the purpose of studying and developing the use of gasogen, has announced it will grant 22 prizes for the purchase of new autovehicles especially designed to operate exclusively on "autarchic" gasogen. Besides these prizes, which are believed to be nothing more or less than a subsidy for the purchase of such autovehicles, a sum amounting to over $150,000 has been placed at the disposal of 51 firms operating scheduled bus lines for the purpose of transforming 187 gasoline-burning buses into gasogen-operated buses.

The government hopes that with such assistance operators of bus lines will be encouraged to effect a wholesale change in the type of motor fuel now generally employed in the operation of buses, and that in the near future "complete autarchy" in motor fuels for public transportation will be attained.

Out of a total of 9,960 autobuses in operation in Italy as of December 31, 1938, according to official statistics, only 564, or less than 6 per cent were equipped to use gasogen as a motor fuel. Of this number, 100 were especially designed for gasogen consumption and 464 were transformed from the gasoline-burning type. The greatest progress, however, is to be made with motor trucks, since only 324 out of a total of 112,566 are gasogen-operated. Of this number, only 55 were especially designed for gasogen consumption, while 269 were transformed from gasoline to gasogen-operated motor trucks. However, a great number of the motor trucks in use in Italy are diesel-powered and cannot be transformed to use gasogen.

Though successful experiments have been made on private passenger automobiles (totaling 345,098 in Italy as of December 31, 1938), it appears hardly likely that gasogen as a substitute motor fuel will be used in them to any great extent because of the bulky size of the gasogen generating apparatus which must be installed at the rear or the side of the automobile, though the use of such a fuel would be infinitely cheaper than gasoline, which currently costs around 70 cents per gallon. (Since increased to 95 cents.)

Crude oil imports have increased steadily for the past three years, being consistently the largest imports over an extended period. Imports of crude oil rose from a value of 50,104,000 lire in 1936, to 283,331,000 lire in 1937, and to 428,708,000 lire in 1938. Though this steady and sizable increase in the importation of crude oils may be attributed to increased activity in the refining industry in Italy, followed by a corresponding decline in the importation of gasoline (from 141,687,000 lire in 1937 to 67,238,000 lire in 1938), it is just this upward trend in the importation of foreign crude that the government hopes to curb, if not for a purely economical reason, for one of a military character, it being generally admitted that in time of war, adequate supplies of crude oil for the manufacture of gasoline and other mineral-oil derivatives would be most difficult to obtain.

Patagonia . .

Argentina Investigating Possibility of Production

ARGENTINA is reported investigating the production of oil from deposits found in Patagonia.

From 1910 through 1937 Argentina spent about $425,000,000 on coal and $636,705,000 on petroleum imports.

Venezuela . .

Oficina Line Running 17,000 Bbl. Daily Now

THE OIL pipe line extending from the Oficina oil field in the state of Anzoategui, Eastern Zenezuela, to the northern sea coast near Guanta, is now completed and is running 17,000 bbl. of oil daily, it is reliably reported. The line has a potential capacity for running at least 100,000 bbl. daily. Runs are expected to reach 30,000 bbl. daily by October 1 and may go considerably above that figure by January 1.

Ownership of the line is said to be divided approximately as follows: Gulf Oil (Mene Grande) 33⅓ per cent; Standard Oil of Venezuela (Creole) 16⅔ per cent; Lago Petroleum (Standard of New Jersey) 16⅔ per cent; International Petroleum Co., Ltd., 16⅔ per cent, and Royal Dutch-Shell 16⅔ per cent.

Approximately 500,000 bbl. of tank storage capacity has been erected at the seaboard terminus of the line and this will probably be filled before exports of the oil actually are made to the Dutch West Indies islands of Aruba and Curacao, where the oil is expected to be refined until new plants can be built in Venezuela.

Greece . .

Helis Test Reported To Be Flowing Oil

A COPY of Atlantis, a Greek newspaper, received in Tulsa, reports that a test being drilled by George Helis of Louisiana near Kyllenea, Greece, is flowing oil. A gas well said to be estimated at 20,000,000 cu. ft. was recently reported from the same neighborhood.

Argentina . .

Daily Average Output In June Is 65,767 Bbl.

THE PRODUCTION of crude oil in Argentina during June 1939 amounted to 327,202 cu. m., according to statistics issued the American trade commissioner at Buenos Aires. As a cubic meter equals approximately 6.3 bbl., this output is equal to about 1,973,022 bbl., a daily average of 65.767 bbl. Of the June output, 239,432 cu. m. came from the Y.P.F., or national oil company, and 87,770 cu. m. from properties of private operating companies.

Production of petroleum products in Argentina during June and stocks on hand as of June 30, were as follows: (cu. m.):

	Production	Stocks
Fuel oil	473,283	99,326
Diesel oil	58,017	23,536
Gas oil	10,655	7,765
Asphalts	4,814	2,182
Oils	26,407	5,784
Gasoline	177,611	116,939
Kerosene	50,087	16,403
Aviation gasoline	2,434	1,438
Turpentine	621	225

Service on New Fields

Hull-Silk Pool, Archer County, Texas

Compiled by The Oil and Gas Journal

GENERAL INFORMATION

Approved name:

Hull-Silk pool.

Geographic location:

Four miles southeast of Holliday and in northern part of Archer County, North Texas. Fifteen miles southeast of K.M.A. field.

Principal cities and towns near field:

Wichita Falls, long an orientation point for North Texas oil fields, is 15 miles northeast of the field.

Location of supply houses:

Distribution houses for practically all oil-field supply concerns in the business are located in Wichita Falls.

Railroads serving the area:

There are five railroads through Wichita Falls, these being the Fort Worth-Denver, Missouri-Kansas-Texas, Rock Island, Santa Fe, and Wichita Falls & Southern.

Trucking and hauling facilities:

Some 20 transfer and van companies, several of which are interstate concerns, serve the area out of Wichita Falls.

Hotels and other accommodations:

Wichita Falls has some 25 hotels, several of which are air-conditioned and as fine as in cities of much larger size.

Schools and churches:

Wichita Falls has 3 private schools, 12 elementary schools, 1 high school, and 1 junior college. It has 14 churches of practically all denominations.

Electric power and gas companies:

The West Texas Utilities Corp. has a line running through the field; however, all electricity used in the field up to the present time has been generated on the lease.

DEVELOPMENT

Early history:

The discovery well in the field was the L. V. Hull and W. W. Silk, both of Wichita Falls, No. 1 L. F. Wilson, NW cor. of the NW of the SE of Section 25, A.N.T.C.L. Survey. It was completed in March of 1938 for a daily potential of 1,952 bbl., production being from the 3,800-ft. K.M.A. field producing horizon drilled to a total depth of 3,960 ft. Shortly after the pool's discovery Mr. Hull and Mr. Silk sold their interests in the well and its acreage to Blackwell Oil & Gas Co. and Helmerich & Payne, Inc., and these operators are at present the most active in the field. The discovery well was drilled on neither geology, surface, or subsurface, nor on seismograph or other geophysical recommendations.

An interesting note regarding the first intentions of the operators to drill and showing the rank wildcat nature of the test was that one Sunday afternoon while driving through the area Mr. Hull remarked to his partner, Mr. Silk, "Let's drill a well right over there." The test was started some months later, and the site selected was only some 200 ft. from the first oil-producing well in Archer County.

In July and only 4 months following the discovery of the 3,800-ft. horizon, Blackwell Oil & Gas Co. and Helmerich & Payne, Inc., completed No. 2 L. F. Wilson, diagonal northwest offset to the 3,800-ft. discovery for 72 bbl. of oil in 3 hours from a pay section at 4,350 ft. after missing the 3,800-ft. pay of the field opener. To date there have been only two additional wells completed from the original discovery horizon—both offsets to the discovery well, one on the north and the other on the west—and the 4,300-ft. horizon has constituted the main objective of operators in the field. As shown on the accompanying map, the greater part of the field's development has been to the north and west of the discovery well; however, the greatest amount of acreage has been added to the northeast of the pool opener.

Completions to date:

As of August 21 there were 40 producing wells in the field, including both producing horizons.

Present drilling operations:

Wells drilling—12.
Locations—4.

Present daily average production:

Approximately 1,200 bbl.

Spacing pattern:

Well spacing of one to about 10 acres is being used, with wells 330 ft. from lease lines and 660 ft. from drilling or completed wells.

PRESENT OWNERS OF PRODUCING LEASES

Blackwell Oil & Gas Co. and Christie	1
Blackewll Oil & Gas Co. and Helmerich & Payne, Inc.	6
L. T. (Bobby) Burns	2
Christie and Deep Oil Development Co.	2
Chapman & McFarlin	5
Bert Ligon and Deep Oil Development Co.	4
Helmerich & Payne, Inc.	2
Bert Ligon	3
Mazada Oil Co. and Helmerich & Payne, Inc.	1
Louis Sikes	4
Texas Co.	1
Thurman & Lipscomb	3
United Producers and Petroleum Producers	2
Reno Oil Co.	2
Fain-McGaha Oil Corp.	1
King Oil Co.	1
Total	40

Service on New Fields

Manner of allocation:

The three wells producing from the 3,800-ft. horizon have a 15-bbl. well allowable and a 17-bbl. acreage allowable, making a top daily allowable of 32 bbl. The 4,300-ft. wells have a 20-bbl. well allowable and a 17-bbl. acreage allowable, making a total daily top allowable of 37 bbl.

GEOLOGY OF FIELD

Unlike the typical shallow lenticular sand fields throughout Archer and surrounding counties, the condition producing oil in the Hull-Silk field is a reflection upon the lower Strawn of the Bend high throughout the area. The Bend is the lowest member of the four-member Pennsylvanian group, the Bend, Strawn, Canyon, and Cisco. The structure is a long nosing ridge extending in a southwesterly and northeasterly direction and has some 50 ft. of closure. The high extends through the Hull-Silk field proper and through the Ligon and Sikes extension areas, thereby qualifying that part of the field to definitely link with the main body at some future date. There is some subsurface faulting on the structure; however, not enough to deflect the natural gravitational separation of the oil, gas, and water. Wells in the northern part of the field miss the 3,800-ft. pay zone entirely, indicating that the 4,300-ft. zone is the fundamental concentration horizon for the oil on the structure. Illustrating the northwestern dip of the producing horizon, the farthest southwest well in the field, Thurman & Lipscomb's No. 2 Wilson, topped the zone at 4,232 ft. About a mile northeast of this well the Petroleum Producers and United Producers' No. 1 Shepherd topped the horizon at 4,284 ft. Farther northeast and in the Sikes extension area, the horizon is topped at about 4,380 ft. Somewhat of a saddle exists between the Sikes area and the recent northeastern extension to the main part of the field, the Bert Ligon No. 1 Johnson. The No. 1 Johnson is considered to be on about the top or slightly on the northwestern flank of the ridge which will probably embrace few more than 10 or 12 wells abreast along its entire length.

FUTURE DEVELOPMENT

Proven area:

Some 3,500 acres are proven for production in the original Hull-Silk field and if future drilling definitely links the Sikes area to the northeast there will be almost 2,000 additional acres added making a total of approximately 5,500 acres.

Undrilled locations in proven area:

In the present proven area of the field there are about 310 undrilled locations. Should the Sikes area at some later date prove a part of the field an additional 200 more locations would be proven for drilling.

Estimated rate of drilling over next 12 months:

Completions are expected to average not less than two per month during the next 12 months for Hull-Silk proper. If completions are reported for the link area between the field and the Sikes extension area, a greater rate of drilling may be expected for mainly independent operators hold the link acreage under lease and are typically enthusiastic for development.

DRILLING

Types of drilling equipment used:

There is one steam rig operating in the field, the majority of the drilling being done with 220 and 240 hp. diesel and butane gas engines.

Water:

The majority of completions to date have used water pumped from a creek flowing through the field. A line has recently been completed to a large irrigation ditch a few miles northeast of the field and water will henceforth be obtained from this source. There is a water-bearing sand at about 400 ft.; however, in dry weather this is not dependable.

Types of bits used:

Regular rotary rock bits are used all of the way down the hole, there being about 21 bits required per hole.

Casing program:

Thirteen-inch casing is cemented at about 150 ft. and a 9-in. hole is drilled to top of the sand where 7-in. o.d. casing is cemented. Two-inch tubing is most widely used for completion.

Completion practices:

About 9.5-lb. mud is used in drilling to top of sand and the well is drilled in with 9.8-lb. mud, or the rotary is moved off and a spudder used to drill in and clean out after shot.

Speed in drilling:

Best drilling time in the field is 21 days; however, average drilling time is about 30 days.

Drilling problems:

No drilling problems have been encountered in the field as the entire formations from surface to bottom of hole are lime and shale alternately.

CRUDE-OIL ANALYSIS

Gravity, A.P.I.	43.8
Specific gravity	0.8072
Sediment and water	None
Distillation, dry—	°F.
Initial boiling point	78
Per cent off:	
5	138
10	175
20	234
30	294
40	384
50	459
Products—	Per cent
Gasoline, Gr. 61.3, E.P. 400° F.	43.00
Kerosene, Gr. 41.5, E.P. 500° F.	11.25
Residue, Gr. 26.8	45.50

GENERAL PHYSICAL DATA

Pressures:

No bottom-hole pressures have been taken in the field.

Service on New Fields

Gas-oil ratio:

Ratios vary in the field from 600 cu. ft. of gas per barrel of oil to as much as 900 cu. ft. per barrel of oil.

PRODUCING PRACTICES

There are only two pumping wells in the field, these being on the southeast corner of the field. Wells are gaged and completed through ¾-in. choke on 2-in. tubing.

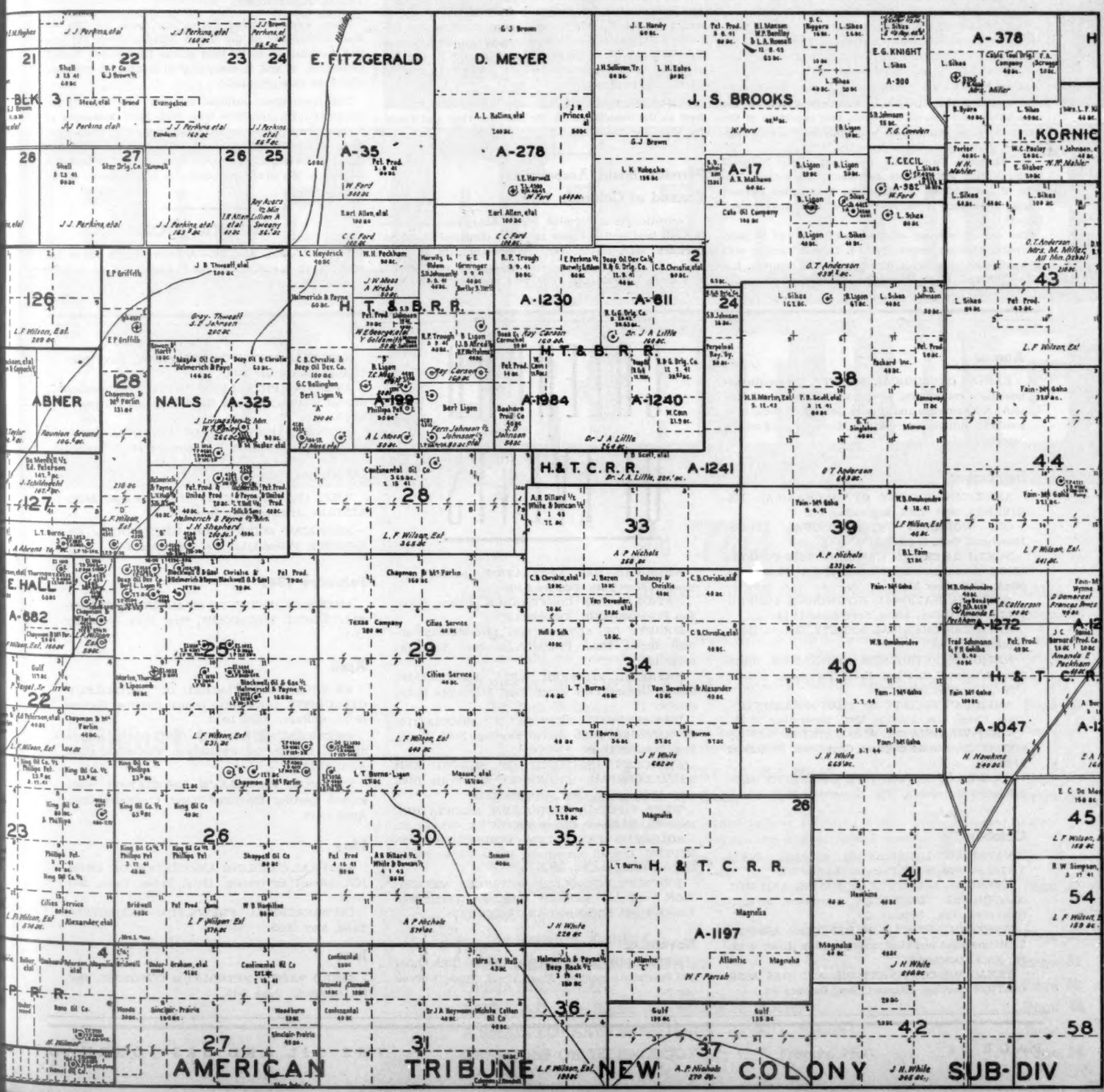
NATURAL GAS

No natural gasoline plants have been constructed in the field and there is no recycling plant in the field.

PIPE LINES

Magnolia, Sinclair Prairie, Texas Co., and Continental all have lines out of the field and with the exception of Continental, carry the field's crude.

Heydrick Map Co., Wichita Falls



PROGRAMS AND MEETINGS

Speakers on N.P.A. Program At Annual Meeting

Thurman W. Arnold, assistant attorney general, will be one of the principal speakers on the opening day of the thirty-seventh annual meeting of the National Petroleum Association to be held in Atlantic City, N. J., September 13, 14, and 15, at the Hotel Traymore. Mr. Arnold's address will be on the "Enforcement of the Antitrust Laws and the Proposed Amendments." A discussion led by Fayette B. Dow, general counsel of the association, will follow Mr. Arnold's address.

Sen. Joseph C. O'Mahoney, chairman of the Temporary National Economic Committee, will address the association on Thursday on the "Progress of the Temporary National Economic Committee."

In addition to Mr. Arnold, speakers on Wednesday afternoon will be Charles L. Suhr, president of the association, and Joseph E. Pogue, vice president of the Chase National Bank, who will discuss "Current Economics in the Petroleum Industry."

On Thursday Paul Ryan, president of the National Refining Co., will discuss petroleum marketing. The title of his address is "Will the Companies Correct Their Marketing Troubles Before the Government Does?"

The annual banquet of the association will be held Thursday evening, September 14. Lowell Thomas will give his usual broadcast direct from the banquet. Lucille Manners, Kay Thompson, Michael MacDougall, author of "Gamblers Don't Gamble," and the Barbershop Quartette are scheduled to appear at the banquet.

On Wednesday morning George W. Guth, of Socony-Vacuum Oil Co., Inc., will address the department of taxation on "Social Security—Past, Present, Future."

Thursday morning, Arch L. Foster, of the Lubri-Zol Corp., will present a "Review of Catalytic Cracking," which will be discussed by Arthur E. Pew, Jr., of Sun Oil Co.

The department of traffic and transportation has also scheduled a meeting for Thursday morning at which Arthur F. White, assistant director of the Bureau of Statistics of the Interstate Commerce Commission, will report on "Recent Developments in the Application of Transportation Costs to Rate Making in Petroleum Products."

Friday morning, Pure Oil Co., of Chicago, will be host to the association at the Seaview Golf and Country Club for breakfast.

Permian Basin Association Formed at Colorado City

Formation of a Permian Basin Association combining oil, land and business interests climaxed the first Permian basin oil-discovery celebration held at Colorado City, West Texas. Harry Adams of Midland was elected president. Four vice presidents who will represent the various areas are as follows: Charles C. Thompson, Colorado City, eastern; Ralph Oberholtzer, Seagraves, north; George Elliott, Odessa, western, and M. D. Bryant, San Angelo, south. H. B. Spence, manager of the Colorado City Chamber of Commerce, was made acting secretary-treasurer.

Directorate of the association until its first regular meeting next June will be composed of three men named by each Permian basin town to represent its oil, land and business interests. After the first meeting there will be one director for each county having as many as 10 members, with an additional director given for each 100 members. Each county will be limited to three directors, however. There will be an executive board of 15 members.

The association is a permanent body replacing a previously formed temporary one several months ago.

Plans Launched for Meeting of Texas Association

Plans were launched during the week for the annual convention of the Texas Mid-Continent Oil and Gas Association, to be held at the Rice Hotel, Dallas, October 5, 6, and 7, according to George C. Gibbons, executive vice president.

The convention business sessions will include nationally-known speakers who will have messages of unusual importance to Texas oil men. The annual address of Charles P. McGaha, president of the Mid-Continent Association, will set forth some vital points pertaining to the operating problems of the Texas oil industry.

MAGNETIC STORM

TUCSON, Ariz., Aug. 26.—A severe storm began August 21 at 3 p.m. and ended August 23 at 9 a.m., central standard time.

CALENDAR OF EVENTS

August

KANSAS GEOLOGICAL SOCIETY, thirteenth annual field conference, jointly with Illinois and Missouri state surveys and Illinois Geological Society, in southern Illinois and eastern Missouri—August 30-September 3.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, September 4-8.

OIL WORKERS INTERNATIONAL UNION, Hammond, Ind., September 5.

NORTH AMERICAN GASOLINE TAX CONFERENCE, annual meeting, Niccolet Hotel, Minneapolis, Minn., September 11-13.

MONTANA NATIONAL BITUMINOUS CONFERENCE, Sun Valley, Idaho, September 11-14.

AMERICAN CHEMICAL SOCIETY, Boston, Mass., September 11-15.

NATIONAL PETROLEUM ASSOCIATION, thirty-seventh annual meeting, Hotel Traymore, Atlantic City, N. J., September 13-15.

AMERICAN SOCIETY OF PHOTOGRAMMETRY, Plaza Hotel, San Antonio, Tex., September 26-27.

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual meeting, Charleston, September 27-28.

SOCIETY OF AUTOMOTIVE ENGINEERS, Hotel Schoeder, Milwaukee, Wis., September 28-29.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Stevens Hotel, Chicago, October 2-3.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Galveston, Tex., October 5-7.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Allis Hotel, Wichita, Kans., October 5.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION meeting, Houston, Tex., October 5-7.

AMERICAN GAS ASSOCIATION, annual convention, New York, October 9-10.

NATIONAL TAX CONFERENCE, Palace Hotel, San Francisco, Calif., October 16.

SOCIETY OF AUTOMOTIVE ENGINEERS, annual dinner, Hotel Pennsylvania, New York, October 16.

NATIONAL STRIPPER WELL ASSOCIATION, annual meeting, Fort Worth, Tex., Blackstone Hotel, October 17.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex., October 18-20.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Los Angeles, Calif., October 19-20.

WEST VIRGINIA PETROLEUM ASSOCIATION, Hotel Daniel Boone, Charleston, W. Va., October 25.

COLORADO PETROLEUM INDUSTRIES COMMITTEE, annual convention, Shirley-Savoy Hotel, Denver, Colo., October 27.

WESTERN PETROLEUM REFINERS ASSOCIATION, regional technical meeting, Washington-Youree Hotel, Shreveport, La., October 27.

November

SOCIETY OF AUTOMOTIVE ENGINEERS, fuels and lubricants meeting, Mayo Hotel, Tulsa, November 2-3.

NATIONAL MOTOR TRUCK SHOW, Navy pier, Chicago, November 8-16.

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Providence, R. I., November 15-17.

December

WEST CENTRAL TEXAS OIL AND GAS ASSOCIATION, Abilene, Tex., December

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Philadelphia, Pa., December 4-7.

February 1940

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-fifth annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUTE, eastern district, Division of Production, Columbus, Ohio, April 11-12.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio, April 18-19.

May

NATURAL GASOLINE ASSOCIATION OF AMERICA, annual convention, Hotel Tulsa, Tulsa, May 15-17.

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

June

THIRD WORLD PETROLEUM CONGRESS, Berlin, Germany, June 9-15.

Oil-company engineers, geologists, and superintendents are finding modern trailers useful as headquarters which can be quickly installed at points where work is being carried on in connection with exploration and development operations. The comfortable trailer shown here is located in the active Walker-Wyoming sector of Michigan.

ENGINEERING & OPERATING

AUGUST 31, 1939

In This Section

DIRECTIONALLY DRILLED WELLS DRAIN OIL FROM UNDER LAKE CENTRALIA
By Harry F. Simons ..... Page 34

The Texas Co. is planning to complete a series of wells in Centralia, Illinois, area that will economically and satisfactorily drain a large area under a lake. Engineering procedure is described.

MANIFOLD HOOKUP ON A COASTAL LOUISIANA PRODUCING PROPERTY
By Neil Williams ..... Page 36

A simplified, unusually flexible, and low-cost manifold has been developed by a Gulf Coast, Louisiana, oil producer and is described with respect to its construction and operation.

STEEL-FABRICATED, ARC-WELDED SLUSH PUMP
By W. C. Russell and L. W. Stahl ..... Page 40

Deviating from the usual practices, engineers have developed a slush pump composed entirely of steel plate, forgings, and castings welded together.

PRODUCTION PROBLEMS LOOM FOR SHREVEPORT FIELD
By George Weber ..... Page 47

WELDED-TYPE WELL HEAD
By Joseph A. Kornfeld ..... Page 51

APPRAISAL OF OIL PROPERTIES ..... Page 51
OPERATING IDEAS ..... Page 39
SAFETY—Casing Racks Are Source of Danger ..... Page 48
A SMALL LIBRARY ON REFINING—By W. L. Nelson ..... Page 52
QUESTIONS ON TECHNOLOGY—By C. K. Francis, Ph.D. ..... Page 54

Directionally From Under

By using modern methods of directional drilling, the formations under this Illinois lake are being effectively drained

By HARRY F. SIMONS

Above: Steel tanks used to prevent contamination of the water by drilling fluid from well. The double-drum hoist can be seen in the background. Right: Drilling site located on the south shore of Lake Centralia. The derrick was erected as close to lake shore as possible

THE Salem field in Marion County, Illinois, has an unusual problem in prospect with the Texas Co. developing its City of Centralia lease by directionally drilled wells. The city of Centralia owns the lake, which is the town's water supply, and the surrounding property; the Texas Co. obtained a lease with a drilling obligation from the city government before the start of the development of the Salem pool. The property is known as the Texas Co. City of Centralia lease and comprises 432 acres.

As Lake Centralia was made by blocking the natural drainage, it has a trellis pattern; it is thus possible to drain about half of the area under the property by holes drilled vertically from land sites. The other 200 acres will require that wells be drilled under the lake, either through a directional drilling program or by building piers in the lake. Great care has been taken by the Texas Co. to prevent pollution of the water in the lake and periodic inspections are made by the state health inspector.

Most of the land sites have already been drilled, the City of Centralia lease having 34 producing wells on it at the end of July. The lease is in the two-zone pay area, production being obtained from the Benoist sand at approximately 1,750 ft. and from the McClosky lime at approximately 1,950 ft. The Texas Co. naturally desires to obtain the production and the city of Centralia is more than desirous because the royalty checks from the development have been a major factor in establishing a satisfactory fiscal position for the city.

Plan of Drilling

Building of piers for drilling sites in the lake was considered at one time, but this idea was discarded because of the initial cost and the necessity of constant guarding to prevent pollution while flowing or pumping the wells. The Centralia city government frowned on this idea also, as it was feared the piers might mar the beauty of the lake, which is used as a recreation center.

Several wells, Nos. 19, 20, and 21 City of Centralia, were drilled by the Texas Co. behind dams built across branches of the lake. While this method was satisfactory, its application was limited to a comparatively small area and the Texas Co. decided that the best method would be the drilling of directional holes, the surface equipment to be located far enough back from the shore to prevent pollution and the bottom of the holes being located at some predetermined point under the lake.

By controlling the bottom-hole spacing pattern, the formations under the lake could be drained as effectively as the pay horizons under the remainder of the field which could be drilled from ordinary sites.

A complicating factor was the shallow depths of the wells and the consequent high angle of deflection. It was feared that deflections of approximately 400 ft. might be not only economically prohibitive but physically impossible to drill. For this reason it was decided to drill one of the longest deflections on the original attempt as a test job for the method.

The Texas Co. No. 31 City of Centralia, the first directionally drilled test, had its surface location 178 ft. from the south line and 593 ft. from the west line, SW NE Section 5-1n-2e. The hole was scheduled to be bottomed 427 ft. north and 65° west from the surface location.

To obtain this amount of deviation would require that the hole be drilled at an angle of approximately 12½° if it were drilled at a constant angle from the surface. In practice, the hole is started at a slight angle and the deviation increased with depth. On the No. 31 City of Centralia, the rotary table was inclined 2° and the hole started with that deflection. After drilling 87 ft. of 12¼-in. hole, 10-in. casing was run and cemented, and, after allowing the proper time for setting, deflection operations were resumed.

At a depth of 167 ft., the first removable whipstock was set to increase the deviation. At 270 ft. a deviation of 5° was obtained and at 535 ft. the hole was 10° off vertical. Several removable whipstocks were run at approximately 100-ft. intervals from 167 ft. to 1,008 ft., where the angle of drift was 19°; no further whipstocks were run to 1,844 ft., the total depth, but the angle of deviation was increased to 23° 30′ by the proper application of weight and variation of the rotary speed. Twenty days after starting up, under the surface

Drilled Wells Drain Oil Lake Centralia

pipe, the drilling operations were completed and the Eastman directional survey showed the bottom of the hole to be 432.12 ft. from the surface location with a bearing 64° N. 07′ W. That meant the hole was bottomed 5.12 ft. beyond the point selected and less than 1° off from the direction originally planned. Due to the slant of the hole there was a loss in depth of 76.06 ft., thus requiring the drilling of more lineal footage than would be necessary if the well was drilled vertically. The accompanying diagrams show both the horizontal and vertical projection of the survey of the well.

Five and one-half inch casing was set and cemented at 1,788 ft. after topping the Benoist at 1,786 ft. The hole was bottomed at 1,844 ft., near the top of the Renault limestone. On the potential test the well flowed 22 bbl. of oil in 3 hours and was given an estimated rating of 154 bbl. per day. The Texas Co. generally tests its wells for only a short period before listing them as completed.

Twelve Days for Drilling

Although 20 days were used in drilling the first well under the plan, two more holes have since been completed with a lesser deflection, each of these requiring 12 days. A slightly different procedure was followed on the latter two jobs, the hole being drilled almost vertically from the surface and the major deflection started at 500 ft. The normal drilling time for wells in the area is approximately 7 days.

Rig for No. 35 City of Centralia was located 160 ft. from the N and 880 ft. from the W lines, NW NW Section 9-1n-2e, and the hole was bottomed 348 ft. from the N and 940 ft. from the W lines. The top of the hole for the Texas Co. No. 13 City of Centralia was located 366 ft. from the S and 92 ft. from the W lines with the bottom of the hole located 400 ft. from the S line and 275 ft. from the E line. The former well was completed for an initial of 30 bbl. in 3 hours and the latter was completed for 20 bbl. in 3 hours.

Important information was gained in drilling the first well which has helped to speed up drilling operations and at the present time the Texas Co. plans to encircle the lake with directionally drilled wells to drain locations that are offset by adjoining leases having land drilling sites; in some cases the adjoining leases are owned by competing companies.

For drilling the directional holes the drilling sites are selected close to the lake's shore as this minimizes the deflection. The locations thus present a problem as it is essential that no mud or oil get into the lake water. Steel tanks instead of the ordinary earthen slush pits prevent any pollution.

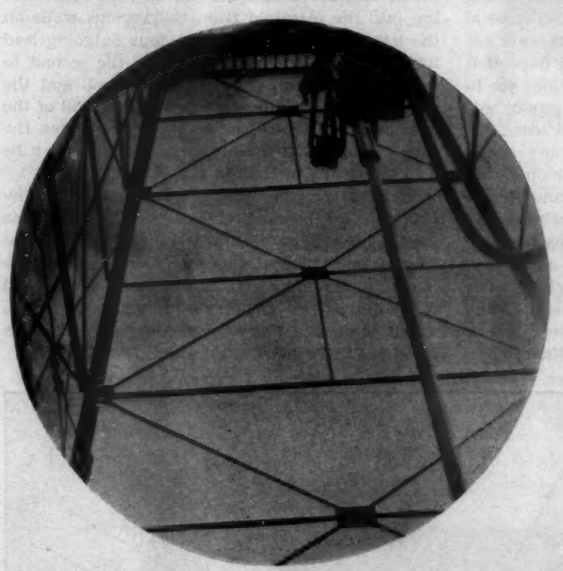
Walls Kept in Good Condition

The mud used for circulating fluid in the tests was watched closely and the walls kept in excellent condition, an important feature in directional drilling because the needed survey information requires considerable working in the hole. A shale shaker aided in keeping the circulating fluid properly conditioned and free from cuttings.

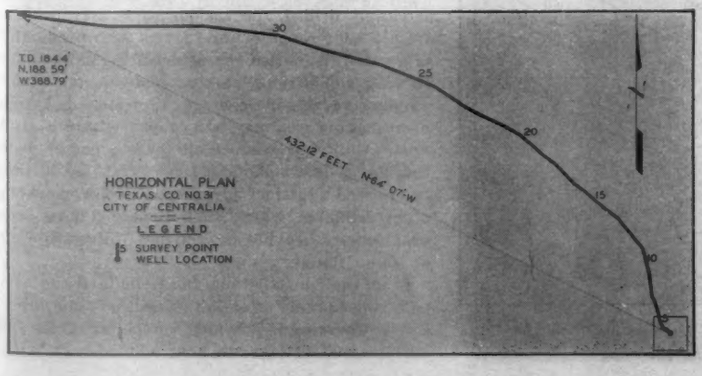
The location for the first well was on the south side of the lake and the normal approach is from the north. To eliminate the necessity for driving around the lake, boats were used by the crews and directing personnel for making trips to and from the job.

A large portable drilling unit, powered by two 175-hp. internal-combustion engines, was used on the directional wells. This particular draw works is equipped with a double drum on which a ⅝-in. sand line was spooled; this extra line was an important time saver as a directional single shot test could be run in 10 minutes.

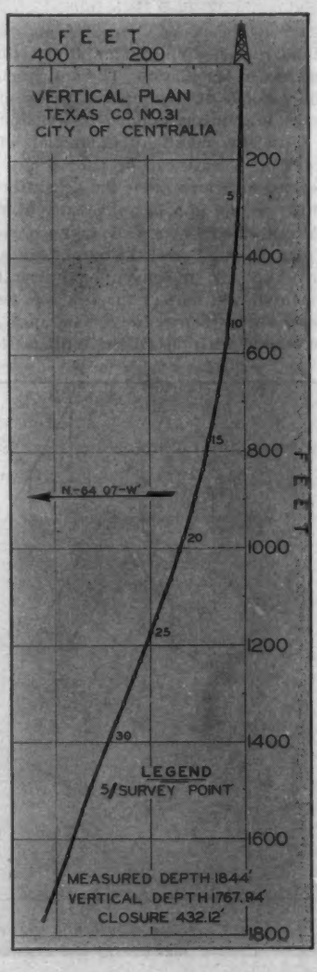
In charge of drilling the directional holes for the Texas Co. were: H. N. Pardee, division manager; M. L. Terry, division engineer, and William C. Kneale, district superintendent. The drilling contract was awarded Helmerich & Payne, Inc., with O. D. (Kid) Williams, drilling superintendent, and E. (Son) Lockett, tool pusher, overseeing the crews. Supervision of the directional drilling was awarded to the Eastman Oil Well Survey Co.; M. E. Shrader, division manager, and Carl McQuien were the engineers in charge.



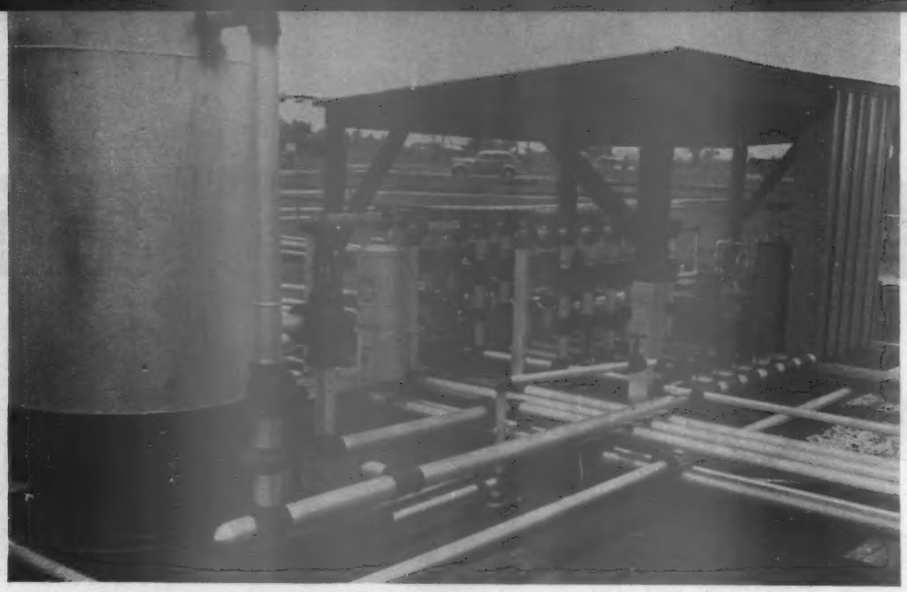
Above: Slanting drill stem used at the start of the hole



Left: Horizontal plan of the directionally drilled Texas Co. No. 31 City of Centralia shows how the well bore was forced toward its destination



Right: Vertical plan of the Texas Co.'s No. 31 City of Centralia, showing survey points and drift of the hole



Standardized flow manifold for tank-battery and separator installations

Manifold Hookup on a Coastal Louisiana Producing Property

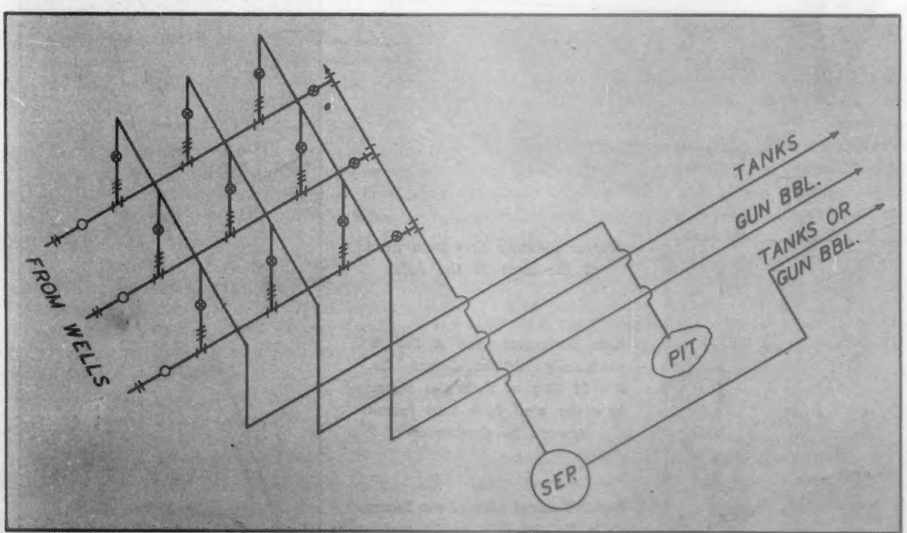
By NEIL WILLIAMS

A FLOW manifold that permits a high degree of flexibility in operation of central-lease tank-battery and separator installations is being used by the William Helis interests on their coastal Louisiana properties. Hookups and equipment are standardized, simplifying and effecting important savings in installation. The only variations are in the number of lines tied into the manifold, this depending on the number of wells on a lease.

With this manifold, production of any or all wells on a lease can be run in any combination desired either through the separator and thence either to the gun barrel or any of the tanks, or direct to the gun barrel or tanks, or to earthen pit. From the gun barrel the output can be directed to any tank, as in conventional installations. The manifold and battery hookup was developed and designed by George Helis, who until recently was associated with his father, William Helis, in operation of the various properties within the area.

As shown in the accompanying flow chart, typical of all installations, each of the flow lines coming into the manifold from the various wells on the lease ties into each of the four outgoing lead lines, the first to the earthen pit, the second to the tanks, the third to the gun barrel, and the fourth and last to the separator. By control of the combination of valves in the connecting lines, the flow of any or all the incoming well lines can be directed to any of the four outgoing lines.

In an accompanying picture is shown an installation of the manifold at New Iberia, Iberia Parish. Overhead are three outgoing lines, the first, or one at rear, leading to the earthen pit, the middle to the tanks, and the one in the foreground to the gun barrel. The line to the separator, shown at left of picture, ties into the ends of the various incoming flow lines from the wells.



Flow diagram of standardized manifold used by William Helis interests on tank-battery and separator installations in New Iberia field, coastal Louisiana

Additional well connections are easily made, provision being made for extension of the manifold lead lines. In the installation shown in the accompanying picture, additions are made at far side, where bull plugs on the ends of the outgoing lead lines can be removed for insertion of extension nipples, to which connections to the incoming flow lines are made.

Use of this hookup is particularly advantageous in the operation of leases on which production of varying characteristics and conditions is obtained from the different wells. It permits handling the production of individual wells independently of other wells on the lease according to the type of production. In this, while flowing wells with gas production are produced through the separator, pumping wells making pipe-line oil can be run direct to tanks and wells making water can be produced direct to the gun barrel. At the same time production of wells being brought in or cleaned out can be run to the earthen pit until such time as it is desired to turn it into the separator or direct to the gun barrel or tanks, which can be controlled quickly by regulation of the valves.

The New Iberia field, in which the Helis interests are among the principal operators, has presented a special need for this flexibility in manifold control. There, unusually irregular and faulted sand conditions exist with very little uniformity in well conditions. On a single lease, most of which is closely drilled, the various wells may produce from a wide range of sand levels with production of greatly diversified characteristics. Pumping and flowing wells, some making pipe-line oil, others yielding varying percentages of water, and some even making gas, may be grouped within a small area. Ability to produce all these types of wells through a central tank battery at the same time has proved a distinct advantage. However, among other fields in which such hookups have been provided are Leeville and the new University field at Baton Rouge.

In all their installations the Helis interests have paid considerable attention to neatness and orderliness. Covering is provided for the manifolds and all lines and fittings are kept painted.

Operating Ideas

Scaffold Simplifies Heater Operation

The usual outflow line on the vertical treaters used in the Talco field emerges from the column at a point where it is necessary for a man to lie flat on top in order to manipulate the valve to the tank battery. In some cases operators equip the gate with an extension. One operator bolts two brackets to the sides of the treater shell below each outlet. These support a small scaffold, which makes it easier for the man who manipulates the valve. Furthermore, he can readily check

the flexible coupling in the flow line to the tanks. This scaffold is reached by portable ladder only. This provision effectively prevents unauthorized tampering with the valve or unauthorized operation of the treater.

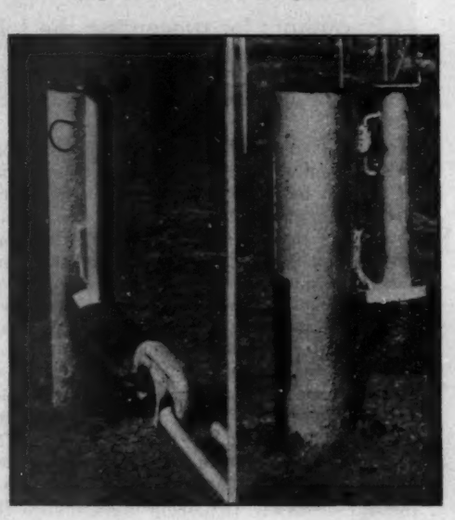
Adjustable Supports for Steel Floor

At one streamlined rotary rig operating in the Sikes field, Archer County, North Texas, the operator has devised the illustrated adjustable supports. By this means he is able to adjust the height of the steel floor around

the drilling engines. Square pieces of tank steel are welded to the base of short pieces of 4-in. pipe in which a smaller diameter pipe is placed. Holes cut at 1-in. intervals in the smaller pipe allow steel pins to be run through so that the floor may be held level and firm. The platform around the engines is constructed from old tank steel.

Rod-Line Knockoff

At one well-kept band-wheel power in the Ivy field of Shackelford County, West Central Texas, the operator improvised the knockoff shown here on the rod line. Twelve-inch pipe was used for the knockoff post, to which is welded the fittings for the 4-in. pipe used to hold the rod line. Whenever it is desired to shut down the well pumped by the line, the pin is pulled from the upper fastening so that the knockout block swings on the hinge, blocks the safety clamp, thereby causing the link to drop out and free the pull rod.



Union on Backside Pumping Rod

On a pumping unit where the power unit and reduction gear were also used to drive the servicing winch, much time was lost and unnecessary dismantling done when the backside pumping unit was cut off or tied in again. It was necessary to pull the pin in the A-frame, as well as take off the crank-pin bearing, both operations requiring accurate spotting of the two portions of the drive, and required the holding of heavy parts exactly in line while the pin was handled. To simplify this task, the connecting rod was cut some 2 ft. from the crank end and the ends of the 4-in. pipe composing the rod were threaded. To compensate for the short section removed, a hammer-type union was inserted in this cut section, enabling the long section of the rod to be laid on the ground while servicing; it was necessary for this to be raised only approximately in line when the union was again coupled. Using the union, troublesome spotting was reduced to the much simpler operation of bringing the severed ends of the rods within the travel of the union nut, after which the take-up of the threads pulled the back-crank unit as the threads were made up.

Steel-Fabricated, Arc-Welded Field Slush Pump

By W. C. RUSSELL and L. W. STAHL
Emsco Derrick & Equipment Co.

Honorable mention and a cash award of $100 was given the authors for presenting the following paper in the 1939 program sponsored by the James F. Lincoln Arc Welding Foundation.

IN recent years commercial welding has become firmly entrenched as a vital and necessary part of modern industry, particularly manufacturing. Probably in no one industry does it play a more active part than in the oil business, where pipe lines, pressure vessels, well casing, derrick structures and equipment parts are quite generally dependent upon welding. Its use is rapidly extending into the ranks of machinery builders and now a new application to the manufacture of oil-well drilling machinery has been developed by Emsco Derrick & Equipment Co., of Los Angeles, Calif., and Houston, Tex. To our knowledge this is the first effort of any manufacturer to offer a machine of this character made up entirely of steel structural shapes and plates, steel forgings and castings. The complete assembly relies entirely upon welding at the juncture of all parts.

A number of these power-driven type pumps, for the handling of mud-laden fluid during the drilling of oil wells, have now been completed and proven in field service. It is this machine and the design and processes used in its manufacture with which this article treats.

In the sinking of present day oil wells the rotary method of drilling is now used extensively. One of the principal units of a drilling rig of this type is the mud pump, more commonly known as the "slush pump." Generally two such pumps are used on each rig, one carrying the load with the other acting as a standby, with occasionally the two pumps connected in series for compounding to high pressures. These pumps are either of the duplex, direct-acting steam type or are power driven, using various forms of prime movers, such as internal combustion engines, steam engines or electric motors. The function of the pump is to deliver mud-laden fluid under pressure to the derrick floor and thence through the hollow drill shaft and the bit to the bottom of the hole, the mud returning to the surface through the space between the drill shaft and the wall of the hole or what casing may have been set. The function of the "mud" is to keep the bit cleansed, carry the cuttings in suspension to the surface and to plaster or wall up the exposed formation through which the drilling is being done, such walling-up being done under pressure for the purpose of shutting off water strata, undesirable gas, or loose, unconsolidated formations. Upon again reaching the surface the mud is conducted through troughs or ditches where the sand and cuttings are caused to be deposited, the mud flowing to pits or tanks from which the pump takes its suction.

Due to the character of the work, frequent difficult locations and constant transportation problems, the weight of the units comprising a drilling rig is an item of utmost importance. Since the trend of recent years has been constantly toward deeper drilling, the size and pressure capacity of mud pumps has increased accordingly with a consequent material increase in weight. In this particular industry, while the first cost of equipment is important, it is not so significant as weight, bulk, ability to withstand hard service, dependability and general efficiency and adaptability to the work to be done. The pump here described was designed especially to meet the above specifications, stress being laid upon reduction in weight, increased horsepower input capacity and the use of metals, construction and design to best attain such results. In meeting these demands arc welding has been given the fullest possible application and the design hinges upon the successful performance of the welding.

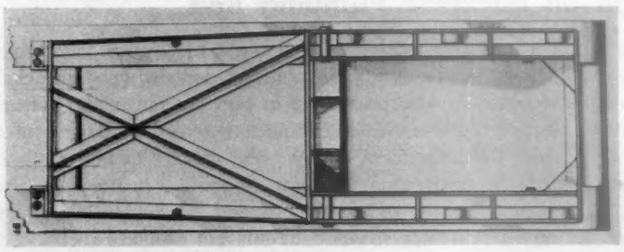


Fig. 1 (left)—Sectional view of assembly of power end.

Fig. 2 (left, below)—Exterior view. Fig. 3 (right, below)—Barrels with stiffener beams on top

Composed of Two Units

For ease of description the pump will be considered as composed of two units, the power end and the fluid end. The former consists of a structural frame and gear case combined, housing the gearing and general mechanism for transmitting the rotative force received from a prime mover to reciprocating motion applied to the fluid end. This is accomplished by application of the power through a pinion shaft to a gear train, through eccentric-type cranks, to crossheads and thence to the piston rods of the fluid end. The latter is composed of two cylinders fitted with the necessary pistons, valves and valve chambers to form a double-acting duplex type of pump, giving four fluid impulses for each revolution of the power-end crankshaft.

The fluid enters through one of three connections of a combination-end and side-suction manifold. It discharges through a specially designed manifold and is conducted to the drilling rig.

The design of the fluid end is engineered to provide as direct a fluid flow through the pump as possible. The fabricated construction with welded joints greatly assists toward this end. As a result of easy bends, large openings, welded joints instead of flanges, or other bolted joints,

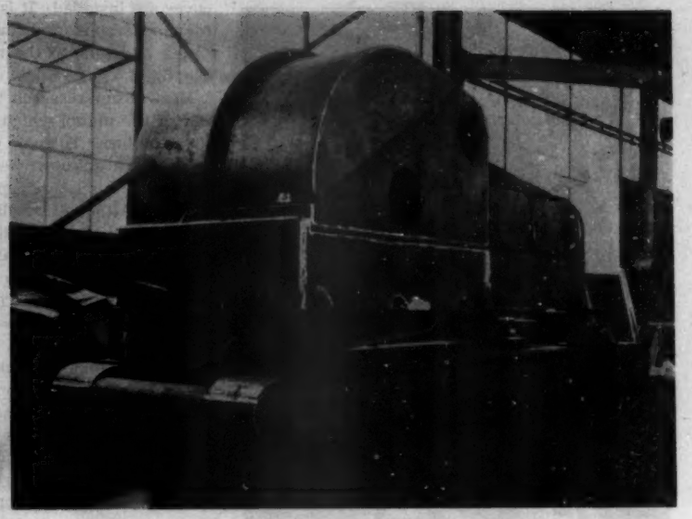


Fig. 4 (left)—Welding door flanges and cutting out door openings on fluid end. Fig. 5 (right)—Completed shell on skids ready for normalizing furnace

a fluid-end efficiency of 90 per cent plus is obtained. The suction manifold is built up of heavy-wall seamless pipe, machine-formed pipe bends and flanges. This welded assembly is in turn welded to the cylinder and valve chamber assembly, the latter being built up of steel forgings independently machined and welded into one unit. The discharge manifold, composed of short lengths of high-pressure pipe and a central forging, connects the upper portions of the fluid-end assembly. All parts are machined to form accurate fits at all junctures and are joined on the exterior by a weld of cross-sectional area equivalent to the thickness of the parts joined. A sealer welding bead is then applied on the inside to close the joint and present a smooth surface to the flow of the fluid.

Upon completion of the fluid-end assembly it is given a hydrostatic test with cold water to 6,000-lb. per sq. in. pressure, above the suction valves and 2,000 lb. below. The rated working pressure is 3,000 lb. discharge and 1,500 lb. suction. Since all metal thicknesses are engineered to uniform strength and maintained as light as possible, it may readily be seen what dependence is placed upon the welding. The resulting job is a fluid end of test pressure 60 to 100 per cent greater than conventional cast steel or cast alloy iron and of 25 to 30 per cent less weight. We therefore achieve greater strength with less bulk and less weight. Also we procure a fluid end that may readily be repaired by any good commercial welder without the necessity of renewing whole parts, as in the case of a damaged cast-iron or alloy-iron fluid end.

Construction of Pump

The power end is entirely fabricated from structural shapes and plates with the addition of two main-bearing-frame castings and four small cast-steel door frames. The steel-bearing frame castings are used for the purpose of maintaining exact spacing between shafts. These frames are welded integral to two base beams and to a heavy plate forming the forward end of the gear case. Heavy walled, rolled tubes form the frame barrels. These rest upon an X-construction member joining the forward plate to the gear case front. Again, strength, light weight and resistance to the cross-racking effect of the pump duplex action are the goal of the design. All parts are 100 per cent welded and the success of the whole depends upon the welds.

Upon completion of the parts the entire assembly is mounted upon a set of steel skids by bolting. These skids are fabricated from H-beams and heavy pipe welded together.

The internal working parts of the pump are of heavy design but more or less conventional in character. No appreciable amount of welding enters into their construction.

Wherever machining is necessary all parts receive their preliminary, and in some cases finished machining as small individual units before welding into the assembly. This procedure greatly reduces manufacturing costs and, to a large degree, offsets the cost of steel parts over iron castings where the work would have to be done on one large piece. Welding again makes this possible.

The manufacture of a pump using a cast construction entails the initial expenditure of approximately $5,000 for patterns to which may be added a cost of 10 per cent for maintenance and 25 per cent for obsolescence and replacement over a period of time. These costs are eliminated in our construction.

Figs. 6 and 7—Electric-welding steel forgings together for fluid end

Some general specifications may be of interest and indicate the size of this unit.

Height from floor to center of discharge, 60 in.
Height from floor to center of suction, 14½ in.
Height from floor to top of gear case, 6 ft. 2 in.
Overall length, 14 ft. 10 in.
Overall width, 57 in.

Development, Technique of Welding and Process of Manufacture

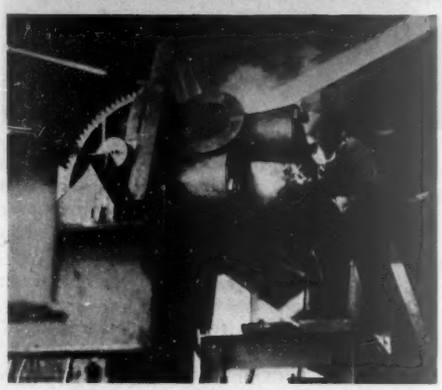
The general principles governing the theoretical aspects of arc welding as well as the practical application, probable procedure, shop conditions, materials, etc., were thoroughly discussed during the process of design. We thereby minimized the necessity of changes during fabrication of these units.

After the basic design was decided upon, and simultaneous with the detailed design, a program of research and development was carried on in respect to the specialized principles involved in the welding of this particular unit. A relatively short time was spent on the power end and base of the unit as regards welding or shop practice except to obtain the strongest and most economical structure that could be fabricated from structural shapes, plates and castings.

The primary consideration, in the power end and frame of the unit, was to obtain joints which would allow the free flowing of stresses and the ductility of the deposited weld metal. Every precaution was taken to avoid undercutting and abrupt projections or corners in the weld metal. Practically all beads are concave and feathered out on the edges so as to give a pleasing appearance as well as create ideal stress flow lines.

All material used in this part of the unit is fabricated from structural grade steel, with the exception of the bearing pedestals and inspection door frames, which are of cast steel, Grade A. Therefore the ductility of the welds are more or less assured in the "elastic members" and not so essential in the more rigid parts where the cast members are mounted.

The assembly of the power end begins with the welding together of two pieces of 15-in. @ 33-lb. channel welded toe to toe to form a box section with internal compression ribs as shown in the sectional view Fig. 1, and the exterior view of picture Fig. 2. After welding, these members are machined to give a good bearing face on which the cast pedestals or bearing frames are mounted.



Figs. 8 and 9 (left)—Fluid-end forgings are held in place on special-type revolving arc

Fig. 10 (left)—Grain structure of weld metal. (All views magnified 80x.) Extreme left: Top layer of weld metal. Center: Weld metal. Right: Base metal and fusion zone

With mandrels to align the bearing boxes the pedestals are set and tacked; the transverse members of 15-in. channel and 8-in. by 8-in. angles are placed and tacked. The 1-in. forward plate of the crankcase is then placed on the perpendicular face of the pedestals to serve as a transverse member at this point to hold the pedestals rigidly in place. This forms a substantial base to which the frame barrels are anchored. The pedestals are then welded securely to the longitudinal box members and forward plate, thus making this part of the rigid portion of the power-end base complete.

The assembly is resumed by installing the X-bracing, front support plate, barrels (which have been fabricated in advance of ¾-in. plate rolled and welded on a longitudinal seam) and stiffener beams on the top of the barrel, as shown in Fig. 3. While the pump is in this position the inspection door flanges are installed and welded and the door openings are burned out. (See Fig. 3.) This also allows for the welding of the oil-tight beads around the inside of them.

The bearing mandrels are next removed and the unit is placed upon the manipulator for complete welding. With the work mounted on this manipulator it is possible, with electric control, to rotate it and tilt to any desired angle so that downhand welding is achieved. Two welders work in opposed positions on all parts that would be affected by unbalanced heat absorption and contraction. Upon completion of the welding at the manipulator the unit is returned to the face plate, where it is checked for alignment, and the skirt plates, cover plates, oil pan and oil-tight gear cover are installed. It is then chipped and ground for appearance and mounted on H-beam skid frame and sent to the normalizing furnace. (See Fig. 5.)

Most of our research was centered on the fluid end of the pump, which is fabricated from S.A.E. 1035 forgings. To some extent these forgings represented an unknown factor, our previous experience with this type of material having been quite limited. Although steels of this carbon content are considered as readily weldable, the air-hardening tendencies are fairly critical. The reaction of these forged pots to the welding operation is a tendency to form martensitic or troostitic structure in zones between the base metal and deposited metal adjacent to the fusion zone. To forestall shrinkage cracks and subsequent failure under dynamic loads, preheating temperatures of 350° to 500° F. are used before welding.

The fatigue moments wrapped up in this unit necessitated a design and fabrication which would assure ability to absorb impact and reciprocal stress in service. The cross-sectional areas of the component parts at the points of juncture were held nearly equal so as to minimize the danger of concentrated stresses otherwise encountered through an area of unequal physical properties.

The size of the rod, rate of deposit, type of bead, method and sequence of application of weld metal deposit were all carefully outlined. Although it is a generally accepted viewpoint that the weld value depends on the personal qualifications of the operator, we feel that the logical method to assure good welding is: good welders plus close, detailed supervision. There are other variables which influence the welding of steels. One of these, of prime importance, is the effect of welding heat on the parent metal adjacent to the weld. The reaction of the base metal to the conditions imposed upon it through the welding process becomes a factor which is beyond the average good welder's knowledge. Therefore, on a unit of this nature, it is not good practice to just make welded joints; they must be properly designed and the welding work strictly supervised.

The assembly of the fluid end is carried out by building up a series of subassemblies first, and then joining these parts to form the unit as a whole. Each of the cylinders, which are the base members of the unit, consists of two forged pots. These are normalized at 1,650° F. to relieve forging strains, rough machined and partially drilled. A mandrel jig is used to align the bores and hold the cylinders in the correct relation to the exhaust and intake pots. While they are in this position they are tacked securely and then preheated to 350° to 500° F. Six stringer beads are run to join them firmly together. The mandrel is then removed and the welding completed by depositing the remainder of the weld metal. Each cylinder is then placed in a fixture, holding it correctly as to port openings and center-to-center lines. The four valve pots (forgings which have been stress relieved, rough machined and completely drilled and tapped) are located and tacked to the cylinders. This constitutes one subassembly.

The intake manifold is fabricated of tube turns, seamless pipe and bolt flanges. The flanges are rough machined and drilled, the tube turns are supplied already beveled and the pipe sections are torch cut to size and length before welding. This assembly requires no special attention except to deposit all welds in such a manner as to transmit and withstand the vibratory stresses imposed upon them. No preheat is necessary.

Exhaust Manifold

The exhaust manifold is made of four forged pots, a forged central discharge chamber with integral flange and four pieces of heavy wall pipe. After machining and torch cutting the parts they are placed upon a jig to locate the four outside pots in proper relation to the position in which they weld to the cylinders. The central chamber is set and the pipe sections inserted. This group of parts is thoroughly tacked and braced with angle stays to insure holding its shape in handling. It is then removed from the jig and placed upon a revolving spindle table to position it for welding. After preheating the assembly is welded complete.

The exhaust manifold is then set in place upon the cylinders in the proper relation to the port openings and tacked into place and these two assemblies are placed upon the manipulator for complete welding. After preheating, two welders work in opposed positions until stringer beads have been placed around all joints, after which they complete the welding in any position which is most convenient. When this assembly is completely welded, it is removed from the manipulator and placed in an inverted position where the intake manifold is set in place and welded. The unit as a whole is then completed by welding of the footing clips on the intake manifold. The completely welded unit is sent to the heat-treat department for strain relieving at 1,150° to 1,200° F. to relieve locked-up residual stresses incurred by the welding processes. Figs. 6, 7, 8, and 9 show the fluid end on manipulator being welded.

The annealing to relieve forging strains eliminates a great deal of distortion which would otherwise be encountered due to welding. In the pumps we have fabricated to date, no fluid and assembly has distorted more than 1/32-in. plus or minus on any plane.

The machining operation before welding brings about two results: (1) Machined surfaces with which to work during the fitting of assemblies and the assurance of metal-to-metal joints at the port openings, thereby reducing the cutting action of the fluids being pumped, and (2) more economical machining operations, due to smaller units for handling and less complicated setups. All surfaces to be welded, that have been torch cut, are thoroughly cleaned by grinding, thus eliminating almost entirely the slag inclusions which would otherwise be encountered in the deposited weld metal.

The excellent grain structure obtained in the deposited weld metal can readily be seen in Fig. 10. This illustration shows the results of the procedure control used in the fabrication of this unit. The grain growth which has taken place adjacent to the fusion zone is not severe enough to impair the strength and ductility of the welded joint. Severe growth would more than offset the higher physical properties of the parent metal.

Arc-welded fabrication as applied to this unit (as in many others) has shown its ability to produce lower costs, higher quality, lighter weight and longer service life than any other method. Therefore, it is with real pleasure that this contribution to the art of weld-fabrication is made.

Production Problems Loom For Shreveport Field

By GEORGE WEBER

THE Shreveport field of Caddo Parish, North Louisiana, has entered its second year of development with a total of 48 wells and a daily average production in excess of 7,000 bbl. Following a rapid drilling program this spring, daily average production increased from 2,270 bbl. in January to 7,000 bbl. in May. Average withdrawals since May have been held at that figure, and the reservoir pressure in the Pettit lime has followed a rapid decline.

While approximately 50 undrilled locations remain within the estimated borders of the field, it is not likely that the pool will reach the 100-well mark, since many locations lie in the bed of Cross Lake, where drilling is prohibited by the city of Shreveport. Of the estimated 4,860,000 bbl. of oil originally in place, 1,350,000 bbl. had been produced up to mid-August. Much of the remaining oil will probably be produced by artificial lift if present pressure and salt water intrusion trends prevail.

Although the pressure-production relationship in the field is discouraging at this time, conditions in the field would have been much worse had not operators and state conservation engineers adopted sound conservation measures in developing the pool. Following its discovery last summer, widespread development was held up pending the adoption of a strict 40-acre spacing rule in the field. This has prevented wasteful town-lot drilling in the subdivided sections near the city, and has augmented recovery figures on the basis of investment. Later an acre-pound basis was adopted for prorating production in the field, making each well's allowable directly proportional to both its acreage and bottom-hole pressure.

Gas-oil ratios in the field became excessive early this year with the completion of several wells in the top of the lime producing section. This was corrected by the placing of a 2,000-cu. ft. per barrel limit on producing wells, preventing further dissipation of reservoir energy. The average gas-oil ratio in the field decreased as a result of this measure, from 7,848 to 3,581 cu. ft. per barrel in one month, and the latest survey shows the ratio averaging 2,567 cu. ft. per barrel.

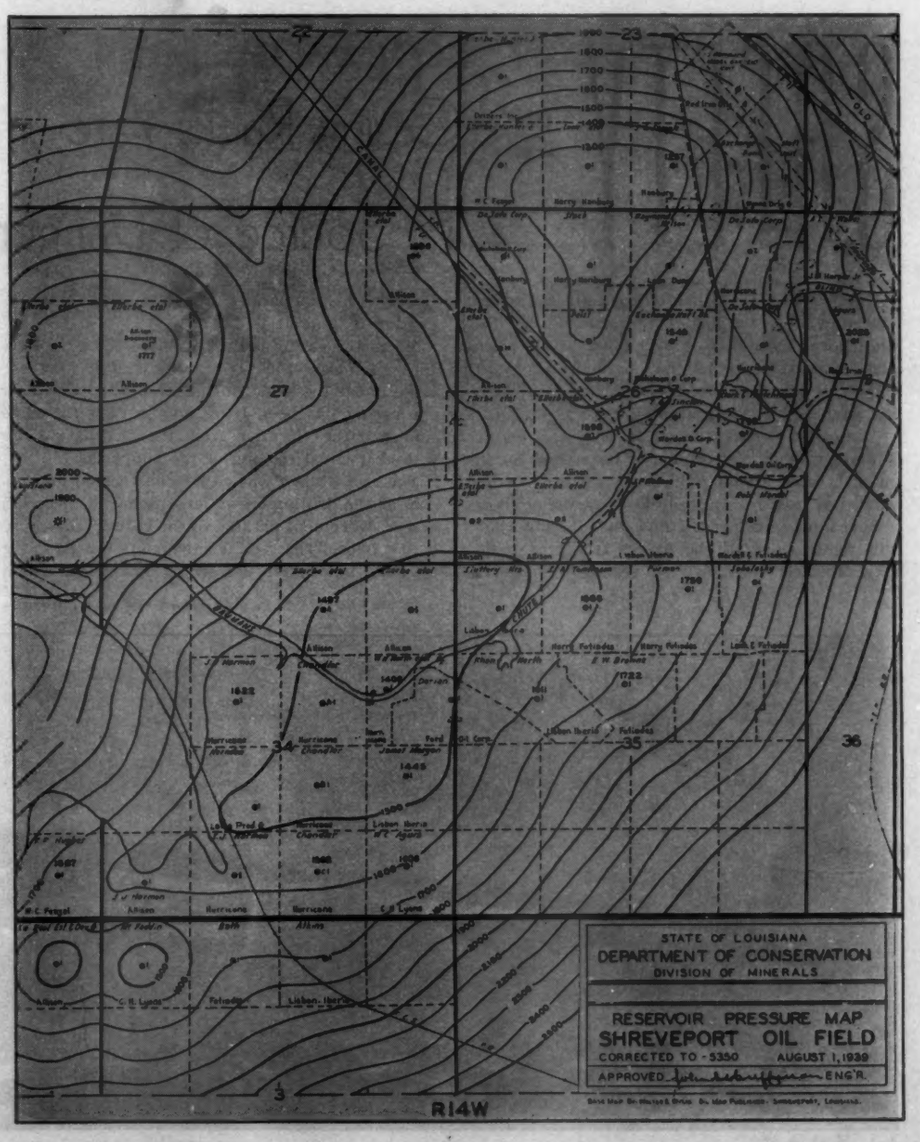
Monthly pressure surveys were not undertaken in the field until February, and the average reservoir pressure since that date has been computed numerically from surveys run on most of the wells in the field. Following a slight increase in average pressure during March the figure began a sharp decline which will probably not be checked with the present allowable figures. The field may bear a part of the expected cut in allowable which may level off the pressure drop.

The possibility of a more gradual decline in pressure is seen in the August 1 survey showing an average reservoir pressure of 1,613 lb. During July an average of 2,165 bbl. was produced per pound drop in reservoir pressure, while for the over-all life of the field the average is 1,284 bbl. per pound drop.

The low crude yield per pound drop in average reservoir pressure in the Shreveport pool may be laid to the characteristics of the Pettit lime formation. The porous section of the lime, varying from 3 to 20 ft. in thickness, consists of variable compositions of oolitic and coquina limestones. In that part of the field now developed the porous pay averages 12 ft. in thickness, 18 per cent porosity and 20 per cent saturation.

An important factor in the behavior of the pressure-production relationship is the permeability of the lime formation. Tests in numerous wells show that the degree of permeability is much greater vertically than horizontally. This factor tends to retard lateral migration of oil to the well bore, favoring instead, vertical movement, and eventual coning of the underlying water. The pressure contours on the accompanying map may be explained by this characteristic of the lime. It also explains the inconsistencies in gas-oil ratios which vary greatly between offset wells, without any apparent basis on structural location of the wells.

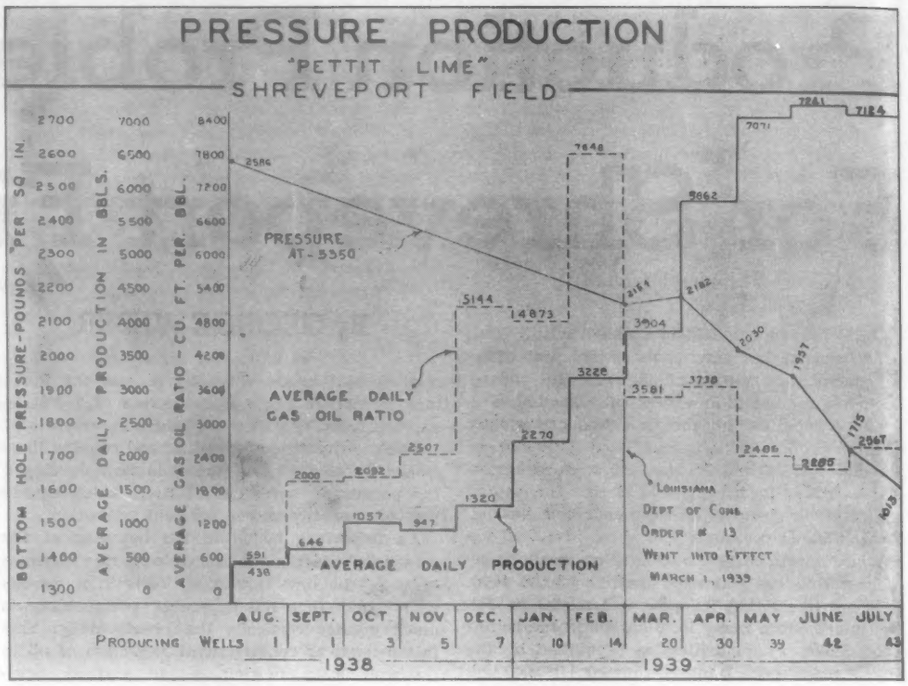
The retarded lateral migration of oil to the well bore indicates that in the future the field may enter a stage of more gradual pressure decline if production is controlled to prevent water intrusion at too early a date. Salt water apparently underlies the entire structure, since contour maps based on the top of the porous section at about 5,550 ft. show very little structural relief, the proven closure being less than 25 ft.



Two wells to date have been abandoned because of excessive water production, possibly caused by penetrating the porous section too far. Several other wells are making salt water in amounts varying from 4 to 16 per cent. From data obtained from a dry hole northwest of the field, the water level is believed to be at about —5,380 ft. subsea. The highest well completed to date topped the porous section at —5,357 ft., and a majority of the wells topped the pay section below —5,365 ft., illustrating the thinness of the porous lime oil section and the danger of imminent salt water intrusion in lower wells.

With continuation of conservation measures already adopted, and greatest possible utilization of the remaining reservoir energy, the field may be expected to produce its estimated 3,500,000 bbl. of remaining recoverable oil. It is possible that oil production will continue long after wells in the field have reached high salt-water production percentages, due to delayed lateral migration.

A further step in conservation of the resources in the field was begun this week with completion of a 25,000,000-cu. ft. capacity natural gasoline plant. This plant, operated by the Arkansas Fuel Oil Co., will process all gas produced with oil in the field, and will realize an added recovery of from 300 to 700 gal. of gasoline per 1,000,000 cu. ft. of gas produced.


PRESSURE PRODUCTION
"PETTIT LIME"
SHREVEPORT FIELD
BOTTOM HOLE PRESSURE-POUNDS PER SQ. IN.
AVERAGE DAILY PRODUCTION IN BBLS.
AVERAGE GAS OIL RATIO - CU. FT. PER BBL.
PRESSURE AT -5350
AVERAGE DAILY GAS OIL RATIO
AVERAGE DAILY PRODUCTION
LOUISIANA DEPT OF CONS. ORDER # 13 WENT INTO EFFECT MARCH 1, 1939
PRODUCING WELLS
AUG. SEPT. OCT NOV DEC. JAN. FEB. MAR. APR. MAY JUNE JULY
1 1 3 5 7 10 14 20 30 39 42 43
1938
1939

SAFETY — Casing Racks Are Source of Danger

Every drilling well has its casing rack, regardless of whether it is a rotary or cable-tool test. On wildcat tests there is often very little casing placed on the rack as the operators wait until they have some indication they will get a producing well before they purchase the pay string.

The latter fact is in itself a source of danger. A limited amount of lumber is purchased for use on each drilling well and a small quantity of it is wasted or used for unessential construction. Later a board may be needed and the drilling crews will remove one of the braces from the casing rack. More careful crews will replace the removed brace with lighter ones, but more often this precaution is ignored.

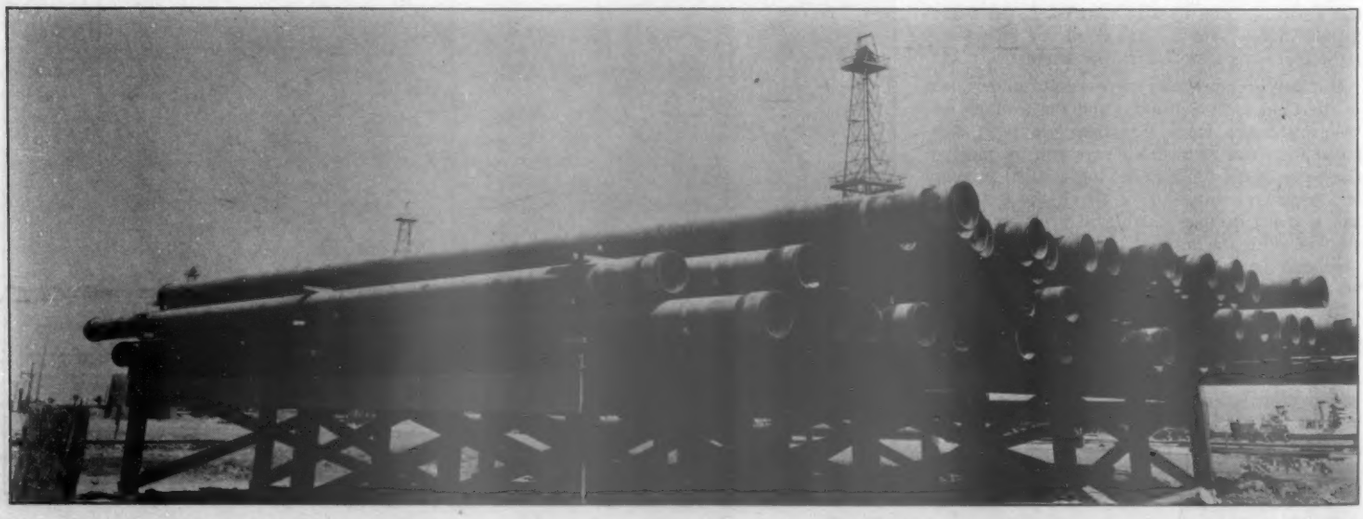
When the casing is finally delivered to the location an unsafe rack is waiting and it may collapse under the load. This generally happens after the casing has been lying on the rack for some time and the vibration from the drilling rig has caused unequal settling of the supports.

The rack shown was either constructed improperly or the drilling crews have removed the cross braces. Movement parallel to the casing may cause it to collapse. The rack is adequately braced along the sills but better use would have been made of some of this lumber if it had been placed across the front of the rack.

Properly constructed racks are a source of danger when heavily loaded. They frequently collapse and when 30 to 70 tons of steel casing falls, it makes an awe-inspiring sound.

Because the casing rack is located some distance from the rig, and it is much quieter there, the members of the drilling crew often spend their spare moments around it. If it is in the shade most crews eat their lunch sitting on the casing. If the location happens to be without trees some members of the crew will eat their lunch sitting under the casing as it is a comparatively cool spot in which to rest.

It is also a dangerous one. In case the rack should collapse anyone under it would not have a chance of living with several tons dropping on him from a height of about 4 ft. Fortunately, nearly every drilling crew contains at least one member who has seen a casing rack collapse and he will at least warn anyone going under the rack of the danger and try to prevent seeing a fellow workman squashed by tons of steel.



Appraisal of Oil Properties

Can you give me reference to any recent discussion of appraisal of oil properties as considered under present day restricted production on rates brought about through application of rules and regulations for proration purposes in various states?—T. Y. O.

During the past eight years there have been many influencing factors entering into the production of oil and the estimate of future worth of properties. In a paper presented before the San Antonio meeting of the Southwestern district of the A.P.I. Division of Production, T. A. Hall, with the First National Bank in Dallas, stated in part:

"It is sometimes necessary to estimate recoveries from the performance of older properties having comparable producing formations, and also future influencing factors which will be discussed later.

"The logical basis on which to appraise a revenue-producing asset is an appraisal of its net revenue throughout its economic life, net revenue being defined as the gross revenue less the total cost of producing that revenue. Any acreage which can be considered oil productive can be appraised on this basis.

"Changed development and production methods and regulatory control of production in the last few years have brought many new factors into appraisal estimates and made necessary the reweighting of the old factors. Of particular importance is the relative weighting of all factors for properties in prorated areas, where past performance may have no direct hearing upon future expectancy.

"Special attention is directed to the numerous items which enter into the control of revenue and costs, as the worth of a property logically can be based only upon its net earning power.

"Suggested forms are outlined for data compilation to meet the usual purposes of appraisals. These are considered particularly valuable as an aid in fixing property prices and terms because of the present day relatively low rate of investment return.

Fundamental Factors

"The fundamental major factors in a complete appraisal on the basis defined are:

"I. Gross revenue or earnings, determined by:

(*a*) Recoverable oil, reduced to marketing conditions.

(*b*) Unit or market price of oil.

"II. Cost of oil produced and marketed, consisting of:

(*a*) Investment cost of leaseholds, development and facilities.

(*b*) Lifting or direct operating cost.

(*c*) Taxes and assessment levied on production, operation and reserves.

(d) Interest, overhead, general and any other miscellaneous expense in producing the gross revenue.

"III. Net earnings, discounted for deferment. The discounted net earnings total is the present worth of the properties. Some appraisals end with the present worth but a complete appraisal will include a final factor or section, which is

"IV. Use made of the present worth.

Following is a discussion of the above factors in the order listed:

"Recoverable oil, reduced to marketing conditions.

"This factor is the most difficult to determine and consequently subject to the greatest error, particularly if the properties under consideration are in a pool which has been under proration.

"Appraisals may deal with properties at any stage of development or depletion and various methods for estimating future production are used.

"For a fully developed property which has had unrestricted production for several years, a projection of the past production decline curve to the economic production limit is the best method. The major control in this method is the estimate of the combination of market price and expense, to determine the economic production limit. Due consideration must be given the prospects of increasing the economic future recovery by deepening, cleaning out, plugging off water, acidizing, etc., and from secondary recovery methods, such as air or gas injection or water-flooding. Reasonably accurate estimates of the effects of various recovery aids generally can be made from the results of the same type of treatment of properties having similar characteristics.

"Flush or semiflush properties present other problems, requiring different solutions. The solutions are particularly difficult if no actual formation data are available or if the properties are in a pool with data on short performance.

"In some pools, even though prorated from the beginning of production, it is occasionally possible to establish pool-wide apparent relationship between recovery and potential, bottom-hole pressure or other factors. This relationship, however, may have no value for individual properties within the pool because they may not have average pool-wide conditions or they may be subject to change in conditions.

"The changes in the development, completion and producing methods in the last eight years have brought many new factors into production and value estimates.

"In estimating future production the following factors should be given all possible consideration:

A. Oil productive acreage.

B. Weighted average thickness of oil saturated formation.

C. Weighted average porosity on the oil saturated zone.

D. Weighted average percentage of oil saturation.

"The above four factors determine total quantity of oil in place, under formation conditions, and to this must be applied the fifth, or,

E. Recovery factor.

•

Welded-Type Well Head

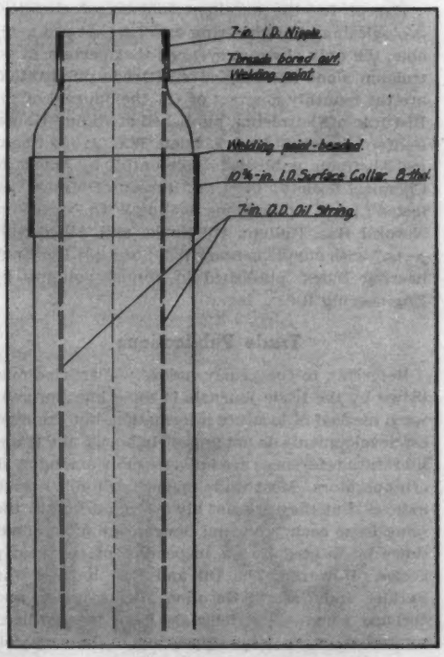
By JOSEPH A. KORNFELD
Petroleum Engineer-Geologist, Wichita, Kans.

A METHOD of constructing a simple well head, in use throughout the Gulf Coast area for the last 4 years, has effected economies and proved efficient by preventing blowouts between the oil and the surface strings. The installation shown in the accompanying illustration was on a 3,862-ft. well in the Blue Ridge oil field of Fort Bend County, Texas, where production is obtained from lenticular sands that pinch out against the shallow salt core.

This equipment, in actual service, has withstood an internal well-reservoir pressure of 2,500 lb. West Production Co. has used the equipment on a 6,500-ft. test in the Mykawa field of southern Harris County with marked success. After setting a 9⅝-in. Class D production string at a depth of 6,500 ft., operators conducted a test to determine the mechanical strength of such a setup. Using eight lines on the traveling and crown blocks, with 20-in. Wilson-Snyder mud pumps compounded, the crew pulled 65 points without breaking the device.

The installation at Blue Ridge required 2½ hours of electric welding.

Briefly, it is constructed as follows. When the production string is set and cemented and sufficient time has elapsed after drilling out the plugs, the electric-welding crew cuts down that portion of the oil string protruding above the surface pipe to within 2 ft. of vertical distance between the surface and production string. The conventional 10¾-in. surface-casing collar (eight-thread in this instance) is screwed on over the end of the surface casing. A piece of 10-in. o.d. pipe is swedged to 7-in. This is screwed on over the production string and made up, after which the welder insures mechanical strength by welding a line of beads entirely around the periphery of the swedge where it meets the end of the surface-casing collar. A 7-in. nipple is taken, one-half of the threads cut out, then placed over the open end of the production string, with the untouched side of the nipple upward. The nipple thus falls down halfway over the end of the production string. The welder then welds the nipple to the swedge. The arrangement



Type of welded well head used on Gulf Coast described in the article

is now ready for making up the 7-in. o.d. main fitting of the christmas tree on the upper threaded portion of the nipple. With this done, the well is completed.

A Small Library on Refining

By W. L. NELSON

THE accumulated experience that may be examined in library references is doubted by none. Yet, the number of possible sources of information is so large that a thorough utilization of all that is available is difficult even for experienced men. This is particularly true in the petroleum industry, because adequate abstracting facilities have not yet been developed. This is probably due to the fact that the industry reaches into such allied fields as geology, chemistry, and general engineering. Excellent abstracting systems are available in these allied fields, but they are not directed specifically toward the oil industry.

The single best reference for locating petroleum books and publications is probably Hardwicke's bibliography, although only publications in English are listed. (1) Hardwicke, R. E., "Petroleum and Natural Gas Bibliography," a publication of the University of Texas, Austin, Tex., 1937. A total of 1,397 books, sources, bulletins, societies, and special articles are listed.

One of the difficulties with lists is that they are either too long or too short. If they are very complete, they are cumbersome for most readers; and if they are too short, they will doubtless fail to satisfy all readers.

The purpose here is to list the most important articles for the general reader and also to refer to more complete listings which may be consulted by those who require specific information.

Abstracts and Indexes

Except for the excellent indexes of chemical, geological, and engineering articles that are available, the only abstract systems that pertain to petroleum alone and exclusive of trade publications are the monthly abstract of (2) the Journal of the Institute of Petroleum, published at Aldine House, Bedford Street, Strand, London, W.C. 2; (3) Chemical Abstracts, published semimonthly by American Chemical Society; (4) U. S. Bureau of Mines, "Selected List of Publications Dealing With Petroleum, Natural Gas, Helium, Oil Shale, and Allied Subjects," with supplementary lists; and (5) the Engineering Index, published in annual volumes by Engineering Index, Inc.

Trade Publications

Referring to the yearly indexes of articles published by the trade journals is sometimes an awkward method of locating information, but the newest developments do not appear in books, and trade-literature references are indispensable among modern operators. Most trade magazines publish such indexes, but they are not always published in the same issue each year, and hence they must sometimes be located by an inspection of the yearly issues. However, The Oil and Gas Journal, the Refiner and Natural Gasoline Manufacturer, and perhaps some other journals have standardized somewhat on an issue appearing in January following the year in question.

Testing Methods

An important phase of reference work in a library involves laboratory or field-test methods. The study consists of two phases—first, the method of conducting the tests, and, second, the significance of the physical properties during actual service. These would include (9) A.S.T.M. Standards on Petroleum Products and Lubricants, The Society, Philadelphia, Pa. (published annually); (10) Gill, A. H., "A Short Hand-Book of Oil Analysis," J. B. Lippincott Co., Philadelphia, Pa., 1926; (11) Hamor and Padgett, "The Technical Examination of Crude Petroleum," McGraw-Hill Book Co., New York, 1920; (12) Holde, D., "The Examination of Hydrocarbon Oils and Saponifiable Fats and Waxes," John Wiley & Sons, New York, 1922; (13) Institution of Petroleum Technologists, "Standard Methods for Testing Petroleum and Its Products," The Institution, 3d ed., 1935; (14) Universal Oil Products Co., "Test Methods for Petroleum and Its Products," Chicago, 1936; and (15) White, A. H., "Technical Gas and Fuel Analysis," McGraw-Hill Book Co., New York, 2d ed., 1920.

Utilization of Oil

The significance of the tests is not such a well-defined field, and in fact nearly all books reach into this field to some extent. As a compromise, the following books are suggested for studying the utilization of petroleum products and allied materials, although many of them also treat of other subjects.

(16) A.S.T.M., "The Significance of Tests of Petroleum Products," The Society, Philadelphia, Pa., 1934; (17) Brown, G. G., "Volatility of Motor Fuels," Engineering Research Bulletin, No. 14, University of Michigan, Ann Arbor, Mich., 1930; (18) Cruse, W. A., "Petroleum and Its Products," McGraw-Hill Book Co., New York, 1928; (19) Nash and Howes, "The Principles of Motor Fuel Preparation and Application," 2 vols., John Wiley & Sons, New York, 1935; (20) A.S.T.M., "Symposium on Motor Lubricants," The Society, Philadelphia, Pa., 1933; (21) Klemgard, E. N., "Lubricating Greases," Reinhold Publishing Co., New York, 1927; and (22) Dustan and others, "Science of Petroleum," 4 vols., Oxford University Press, London, 1938.

The extreme complexity of petroleum both from a chemical and physical standpoint appears to have thwarted the attempts of authors to write books which pertain to specific processing methods or engineering design. However, a few books may be classed in this group, as (22) "Science of Petroleum"; (23) Bell, H. S., "American Petroleum Refining," D. Van Nostrand Co., 2d ed., 1930; (24) Badger and McCabe, "Elements of Chemical Engineering," McGraw-Hill Book Co., New York, 2d ed., 1938; (25) Burrell, G. A., "The Recovery of Gasoline From Natural Gas," Chemical Catalog Co., Inc., New York, 1925; (26) Gulf Publishing Co., "Process Handbook," The Company, Houston, Tex., 3d ed., 1936; (27) Nelson, W. L., "Petroleum Refinery Engineering," McGraw-Hill Book Co., New York, 1936; and (28) Nugey, A. L., "Oil Refinery Specifications," Chemical Publishing Co., 1924.

Technical and Scientific

The main bulk of refinery books, other than historical and those for laymen, must be classed as technical or scientific books. Such books form the background upon which all other developments are based. However, without the spark of a man of action, they remain as dormant theory or facts. There are so many books on the chemical and physical behavior of oil that only a few can be listed: (22) "Science of Petroleum"; (29) Brooks, B. T., "The Chemistry of Non-Benzenoid Hydrocarbons," Chemical Catalog Co., New York, 1922; (30) Burk and Thompson, "Polymerization and Its Applications," Reinhold Publishing Co., New York, 1938; (31) Ipatieff, V. N., "Catalytic Reactions at High Pressures and Temperatures," Macmillan Co., New York, 1936; (32) Kalichevsky and Stagner, "Chemical Refining of Petroleum," Chemical Catalog Co., New York, 1933; (33) Sachanen and Tilicheyev, "Chemistry and Technology of Cracking," Chemical Catalog Co., New York, 1932; (34) Kalichevsky, V. A., "Modern Methods of Refining Lubricating Oils," Reinhold Publishing Co., New York, 1937; and (35) Egloff, G., "Reactions of Pure Hydrocarbons," Reinhold Publishing Co., New York, 1937.

CENTRAL DISTILLATION CONTROL UNIT

Typical of the orderliness that features modern refining is the control room shown here. Note the recessed look boxes

☆ MARKS NEW CONSTRUCTION

⊙ INDICATES PLANTS ON INITIAL OPERATION

In addition to combination cracking units, solvent refining plants, and other refinery construction for American oil companies, Lummus is now building complete plants in England, Russia, Argentine, Dutch East Indies, India, Italy, France and Japan.

In France, Puerto Rico, Japan, England and India, recently completed Lummus plants are now operating on initial runs.

To refiners interested in producing aviation gasoline, high octane motor gasoline or lube oils of superior quality, Lummus offers the knowledge and experience of an engineering organization with an outstanding record for time of delivery and rapid acceptance of all types of refinery plants.

THE LUMMUS COMPANY, 420 Lexington Avenue, NEW YORK, N. Y.

600 SOUTH MICHIGAN AVENUE, CHICAGO, ILL. • 411 WEST FIFTH STREET, LOS ANGELES, CAL. • BUSH HOUSE, ALDWYCH, LONDON, W. C. 2

LUMMUS

PETROLEUM REFINING PLANTS

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Copper First Used for Treating in Frash Process

Can you give us information covering the first use of copper for the treating of petroleum distillates?—B. C. G.

The original use of copper for the purification of petroleum distillates appears to have been the application of the oxide in the treatment of burning oils from the crude oil produced in the Lima, Ohio, field and the similar oil from the field on the opposite side of Lake Erie, near Petrolia, Canada. The very objectionable odor of the products was such that they could not be marketed. This was found to be due to the high sulfur content, up to 0.75 per cent, since explained as largely mercaptan sulfur.

The Lima oil was first successfully refined about 1887 by the introduction of the Frash process, which has often been described; the description briefly stated here is based on the discussion of Gruse.

The oil was agitated during distillation with 5 to 10 lb. of copper oxide to the barrel of oil, or by passing the vapors over the oxide. The following reactions will serve to explain the chemistry of the process.

$$2\ RSH + CuO \rightarrow (RS)_2Cu + H_2O$$

$$(RS)_2Cu + CuO \rightarrow R_2S_2 + Cu_2O$$

$$(RS)_2Cu \rightarrow R_2S + CuS$$

The net result might be to change the mercaptans (R·SH) to disulfides [$(RS)_2$], leaving the sulfur content the same, or to produce a precipitate of copper sulfide (CuS) and an oil-soluble alkyl sulfide (R_2·S). In the latter case, the oil content would be halved; this is probably what took place to a large extent in the application of the Frash process. The malodorous mercaptans were converted to oil-soluble and relatively inoffensive alkyl sulfides or disulfides. The spent copper was recovered as a sludge and then regenerated by roasting.

References: Frash, Ind. Eng. Chem., 4, 134, 1912 Gruse, Petroleum and Its Products, pp. 136 and 137.

Molecular Weight of Air and the Corresponding Molar Volume

Several reference tables which have come to my attention have contained the item, "molecular weight of air—28.8." I understand air to be a simple mixture and not a compound which can be definitely expressed by a molecular weight. Will you kindly explain this?—B. R.

Dry air is a mixture of several elements, the proportions of each not varying to any great extent throughout the world when the samples are collected from that part of the atmosphere used by man. The elements present in the greatest quantities are nitrogen, oxygen, and argon, constituting 99 per cent, the remaining 1 per cent includes carbon dioxide, hydrogen, neon, krypton, helium, and xenon. Argon is present to the extent of 0.93 per cent. All of these, excepting the small quantities of carbon dioxide and hydrogen, are inactive and are therefore, for ordinary purposes, considered as nitrogen.

The composition of air, important to remember for its relation to combustion and many other chemical reactions, is commonly considered to contain only oxygen and nitrogen in the proportions conveniently shown in the table.

COMPOSITION OF DRY AIR

	Per cent by Volume	Per cent by Weight
Oxygen	20.91	23.15
Nitrogen	79.09	76.85

The approximate volumetric percentages of 20 for oxygen and 80 for nitrogen are frequently used in calculations. Since all chemical reactions take place in molecular proportions, and air is often involved, it is desirable to consider air as a molecule. The calculation for this purpose is simple. The molecular weight of nitrogen is 28 and that of oxygen 32; then:

28 ÷ 4/5 = 22.4 plus 32 ÷ 1/5 = 28.8 as the molecular weight of air. Therefore, 28.8 lb. of air has a volume of 379 cu. ft. at 60° F., or 1 lb. of air measures about 13.1 cu. ft.

An application of these facts may be illustrated by considering the complete combustion of methane, CH_4, in oxygen, as indicated by the equation:

$$\underset{16}{CH_4} + 2O_2 = CO_2 + \underset{64}{2H_2O}$$

This explains that 1 mol of 16 lb. of methane requires 2 mols, or 64 lb. of oxygen, which is equivalent to 379 cu. ft. of methane and 758 cu. ft. of oxygen. When methane is burned in the air, 3,790 cu. ft. (758 × 5) is required, because air contains only 20 per cent oxygen. From this it is evident that 1 cu. ft. of methane required 10 cu. ft. of air for complete combustion.

When the composition of any combustible material is known, the quantity of air required for burning it may be calculated from the analysis by use of the principles here explained.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

LAWS OF DEFINITE AND MULTIPLE PROPORTIONS

(Combining weights of elements)

Elements combine to make compounds always in definite proportions by weight of each. When two elements combine in more than one proportion, the weights of one element which combine with a fixed weight of the other are always in simple ratio to each other.

Examples (round numbers are used):

Iron, 56; sulfur, 32; hydrogen, 1; carbon, 12.

Iron sulfide = iron 56 parts and sulfur 32 parts (FeS).

Hydrogen sulfide = hydrogen 2 parts and sulfur 32 parts (H_2S).

Methane = carbon 12 parts and hydrogen 4 parts (CH_4).

Methyl mercaptan = carbon 12 parts, hydrogen 4 parts, sulfur 32 parts (CH_3SH).

Methyl sulfide = carbon 24 parts, hydrogen 6 parts, sulfur 32 parts ($(CH_3)_2S$).

Packing Materials Are Utilized in Washing and Absorption Towers

We wish to obtain a list of the various materials used for the packing of washing and absorption towers. Can you supply us with the names of the best of these, together with any data you may have covering the merits of each?—C. E. L.

There are numerous factors to be considered when endeavoring to determine the advantages of one packing over another. A good discussion of the subject has been presented by Thomas K. Sherwood, which is the basis for this summary.

The fundamental requirements for the ideal packing include: (1) Low cost per cubic foot. (2) High absorption capacity, as indicated by high allowable gas and liquid rates and high-capacity coefficients under the operating conditions. (3) Low maintenance, implying low resistance to gas flow. The composition of the packing plant must be such that there will be no corrosion under the conditions of use.

The table by C. H. Butcher gives the physical properties of a number of packings, some of which are reproduced in the table.

PROPERTIES OF PACKING MATERIALS

Material—	Size, in.	Lb./ cu. ft.	Dry Surface sq. ft./ cu. ft.	Per cent free vol.
Quartz (d)	4	87	6.3	48
	2	100	22.7	37
Raschig rings (d)	1 x 1	58	58	73
	.5x.5	49	132	68
	2 x 2	35	14.4	73
Partition rings (p)	3 x 3	80	37	42
Single spiral rings (n)	3 x 3	53	29	64
Hollow balls	2.5	52	19	33
Hexahelix (p)	4 x 4	60	20	60
Stoneware rings (p)	1 x 1	35	66	92

The percentage of free volume is roughly indicative of the resistance to gas flow, the larger percentages usually giving the lower pressure drop per foot of height. The smaller packing will tend to give more wetted surface per unit volume.

Baker, Chilton, and Vernon have reported on the distribution of liquid over packings. They confirmed previous conclusions, stating there is a marked tendency for the liquid to concentrate near the walls of the column and the center to run nearly dry. The best results were obtained when the ratio of tower diameter to packing size was greater than 8 to 1.

Working with paper Raschig rings, Mayo, Hunter, and Nash have made tower experiments with dyed water, distributed by means of a perforated plate at the top. The surface was almost perfectly wetted at the top but fell about 40 per cent at 9 in. below, being about the same for both inside and outside surfaces of the rings. The percentage of surface wetted increased with liquid-feed rate up to the flooding point, being 70 per cent for the ½-in. rings and 45 per cent for the 1-in. rings for a water rate of 8,300 lb. per hour per sq. ft. The gas rate had no measurable effect on the wetted surfaces up to the flooding point.

References: Sherwood, Absorption and Extraction, pp. 131, etc. Baker, Chilton, and Vernon, Trans. Amer. Inst. Chem. Engs., 31, 296, 1935. Mayo, Hunter, and Nash, J. Soc. Chem. Ind., 54, 375T, 1935.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired, postage should be included.

FIELD OPERATIONS

Summarizing the Week's Developments

OKLAHOMA—A new producing area was opened in Section 3-5-5, about 1 mile south of Konawa in Seminole County and ¾ mile northeast of the new Culver pool. First production was found on Cement townsite in the heart of the Cement field, Caddo County. Wildcats in Noble and Cleveland counties were checking high structurally.

KANSAS—The Iuka oil pool in Pratt County was due for a ½ mile southward extension at an outpost in Section 11-27-13w, which cored saturation in dolomite and was awaiting lifting of the shutdown before testing. Productive limits of the Geneseo pool, Rice County, were extended ¼ mile northeastward but testing of the outpost also awaited end of the shutdown.

MICHIGAN—A 1,728-bbl. well in the Redding pool in Clare County and several wells in Kent County which flowed 100 bbl. per hour for a part of their first day were the best of the 19 new oil wells in the state.

MONTANA—A 1,000-bbl. well was completed in the old Kevin-Sunburst field in Toole County. Production was through a ¼-in. choke.

ILLINOIS—With Mid-Continent and Gulf Coast fields shut in entirely, or producing at a minimum, the fields of Illinois made a new high production record of 311,112 bbl. per day in the past week, and it is reported from that state that production will go still higher this week. In the new Wabash County pools eight new oil wells yielded initial production of 3,500 bbl. In other fields 45 oil wells were completed with a total of 15,007 bbl. actual initial output, many of the wells producing only a few hours on their first day.

WYOMING—Deeper drilling of the Tensleep sand in an old well on the Wertz dome in Carbon County, Wyoming, from 5,987 ft. to 6,238 ft., resulted in a 4,622-bbl. initial production through casing.

TEXAS: Gulf Coast—Brazoria and Wharton counties are given promise of new pools. South Cotton Lake in Chambers County was extended 1 mile east.

Southwest Texas—A new pay sand was opened in the Reynolds pool, Jim Wells County, and another pool is in prospect in the same county. A gas and distillate well is being completed 1,000 ft. west of the Chilitipin pool's discovery well.

North Texas—Another link was added to the chain of wells between the Hull-Silk and Sikes pools. Cooke County's Ordovician Voth pool was extended ¼ mile south.

West Texas—The Cedar Lake pool was definitely assured for eastern Gaines County, the opening well showing oil of 35 gravity.

Eastern Texas—An increase in the bottom-hole pressure in the big East Texas field was noted as a result of the shutdown of fields in the state. The average pressure has gone up 30 lb. or from 1,083.4 to 1,114.8 lb. Several tests in Houston County were approaching critical depths.

Completions in All Fields

(Week Ending August 26, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	41	16	5	62	2,047	2,526
Ohio	12	5	11	28	613	628
Indiana	4	0	6	10	166	53
Kentucky	3	2	5	10	439	565
Illinois	53	0	9	62	2,305	892
Michigan	19	2	14	35	903	539
Kansas	10	2	7	19	819	1,074
Oklahoma	7	3	6	16	1,203	1,142
Texas:						
North Central Texas	23	0	7	30	1,568	2,059
West Texas	12	0	0	12	1,212	1,296
Texas Panhandle	6	1	0	7	259	393
East Texas	3	0	0	3	302	1,338
East Central Texas	0	0	4	4	174	235
East Texas Border	1	0	1	2	48	100
Gulf Coast Texas	14	0	8	22	868	870
Southwest Texas	20	2	22	44	1,517	1,336
Total Texas	79	3	42	124	5,948	7,627
North Louisiana	8	3	2	13	344	434
Gulf Coast Louisiana	5	0	4	9	379	308
Total Louisiana	13	3	6	22	723	742
Arkansas	3	0	1	4	171	158
Montana	4	0	1	5	102	61
Wyoming	2	1	2	5	76	103
Colorado	0	0	0	0	8	6
New Mexico	9	0	0	9	388	376
California	18	0	5	23	604	873
Total United States	277	37	120	434	16,515	17,365
Total previous week	356	40	112	508		
Week ending Aug. 27, 1938	375	33	118	526		

Outstanding Fields—Highlights

(Week Ending August 26, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	14	34	3	2,663	1,108	800
Wasson-Bennett	30	63	2	1,549	392	0
Ector County	22	67	2	2,800	1,808	0
Pecos County	18	34	3	650	1,178	4,100
Jones County	10	26	6	2,534	558	800
East Texas	3	26	3	186	26,069	3,498
OKLAHOMA						
St. Louis	5	25	1	100	877	0
KANSAS						
Barton County	3	12	1	107	447	0
Ellis County	2	16	2	495	414	0
Rice County	4	18	0	0	1,372	0
Russell County	4	25	4	1,430	1,299	0
NEW MEXICO						
Lea County	5	53	3	155	2,226	6,910
LA-ARK-TEX						
Cotton Valley, La. (deep)	1	9	3	1,512	136	2,925
Magnolia, Ark.	1	13	2	1,937	55	0
MICHIGAN						
Kent County	10	51	9	5,593	99	7,822
Van Buren County	5	29	2	1,070	266	13,146
ILLINOIS						
Salem field	6	69	18	9,744	1,220	182,784
Louden field	11	73	19	4,161	1,027	64,213
Other basin fields	24	216	16	4,602	1,559	55,115
Old fields	....	.....	....	.....	.....	9,000
CALIFORNIA						
Wilmington	3	17	4	1,142	673	89,250

Illinois and Kentucky

By STAFF CORRESPONDENT

Illinois Produces 311,112 Bbl. Daily; 120 New Operations

CENTRALIA, Ill., Aug. 28.—With the state producing an average of 311,112 bbl. of oil per day in the past week and with 120 new operations reported ranging all the way from new locations to wells drilling, Illinois operators show no indication of letting up in their mad scramble for a share of the one-crop wealth of the state. Fifty-three oil wells were completed during the week, and nine dry holes were drilled, a total of 62 completions.

In Wabash County, on the eastern border of the southern part of the state, the most-talked-of new field in Illinois, eight oil wells and one dry hole were completed. The initial production was 3,500 bbl.

In the Salem field in Marion County 18 oil wells, with an initial output of 9,744 bbl., and no dry holes were reported. In the Louden field in Fayette County 19 oil wells, producing 4,161 bbl. initially, and no dry holes were finished. A 24-bbl. well and a dry hole were reported in Fayette outside of the Louden area. Other counties and their week's record included St. Clair, one 40-bbl. well; Monroe, Schuyler, Crawford, Bond, Madison, and Montgomery, one dry hole each; Washington, a 104-bbl. well; and Clay, five oil wells with an initial of 1,038 bbl. and no dry holes.

Wabash County Developments

Eight wells were completed in Wabash County in the past week in review. The largest of these was Phillips Petroleum Co.'s No. 4 Schultz heirs, 2,134 ft. from S line and 742 ft. from E line of Section 7-3s-14w, which produced at the rate of 2,040 bbl. per day from Cypress sand at 2,475-81 ft. and 2,500-30 ft. The well flowed 315 bbl. the first 3 hours and settled to 85 bbl. an hour. The same company's No. 5 Schultz was being made ready for a completion test. Other completions were as follows:

Tide Water Associated Oil Co.'s No. 1 Elkins, NW SE SE Section 30-2s-13w, of second principal meridian, Cypress sand at 2,441-46 ft., flowed 145 bbl. Howell and others' No. 5 D. and A. Schultz, C W½ SW SE Section 30-2s-13w, Cypress sand at 2,466-84 ft., pumped 130 bbl. of oil and 60 bbl. of water. Howell and others' No. 3 D. and A. Schultz, SE SW SE Section 30-2s-13w, Cypress at 2,471-84 ft. pumped 182 bbl. of oil and 7 bbl. of water. Continental Oil Co.'s No. 2 Schauf, NE SE SW Section 30-2s-3w, Cypress at 2,472-81 ft., pumped 28 bbl. of oil and 75 bbl. of water. Continental Oil Co.'s No. 1 Schauf, NE NE SW Section 30-2s-13w, Cypress at 2,473-84 ft., pumped 150 bbl. Continental Oil Co.'s No. 1 Jerry Gray, NE NE NE Section 30-2s-13w, Biehl sand at 1,729-37 ft., pumped 125 bbl. Tide Water Associated's No. 1 Bucholtz, NW NW NE Section 9-2s-13w, dry and abandoned at 2,880 ft., St. Louis lime topped at 2,865 ft. Ray Kniveton's No. 1 French, SW NE SW Section 9-2s-13w, Cypress sand at 2,427-50 ft., flowed 702 bbl.

Keensburg's Town Lot Boom

Keensburg, Wabash County, population 320 according to the 1930 census, has become one of the most widely known places in southern Illinois in the past few weeks. It has been converted from a sleepy hamlet to a very busy oil town with many wells drilling or getting ready to drill following the completion of Harry Fotiades' No. 1 Fred French elevator lot and a previous completion by C. D. Neff and others ½ mile north of the town.

In the past week alone no less than 20 new operations were started, ranging from locations to drilling wells, and most of them in the southwest quarter of Section 9-2s-13w on town lots. These added to 10 other operations reported in last week's review brings the total above 30 and does not include wells drilling outside, but near the town limits.

The wells are closely spaced which means that the townsite pool will be rapidly drained if pipe-line facilities sufficient to take the oil are provided.

During the past week the following new work was announced in Wabash County and with one exception all of it was in Section 9-2s-13w, in which section Keensburg lies.

Choate & Cherry's No. 1 Woodyard, 330 ft. from N and 1,117 ft. from E lines of SE¼ Section 9-2s-13w of second principal meridian. Hudspeth & Delay's No. 1 A. P. Bump, SE SW NW Section 4-2s-13w, location. Roberts Brothers' No. 1 Ray Phebus, approximately 1,280 ft. from N and 260 ft. from E lines of SW¼ Section 9-2s-13w, rig up. Oliver Petroleum Co.'s No. 1 Banault, approximately 1,230 ft. from N and 610 ft. from E lines of SW¼ Section 9-2s-13w, rig up. Harry Fotiades, 1,140 ft. from N and 900 ft. from E lines SW¼ Section 9-2s-13w, drilling at 798 ft. Centralia Refining Co.'s No. 1 French, approximately 960 ft. from S and 1,075 ft. from E lines SW¼ Section 9-2s-13w, set 10-in. casing at 222 ft. Roberts Brothers' No. 1 Lovellette, 900 ft. from S and 1,140 ft. from E lines SW¼ Section 9-2s-13w, rig up. Harry Fotiades' No. 1 La Grier, 260 ft. from S and 520 ft. from E lines SW¼ Section 9-2s-13w, rigging up rotary. J. Meyers' No. 1 Lovellette, 780 ft. from S and 910 ft. from E lines SW¼ Section 9-2s-13w, drilling at 400 ft. W. T. Chisom's No. 1 Shepard, 800 ft. from S and 50 ft. from E lines SE SW Section 9-2s-13w, material on ground. D. & H. Drilling Co.'s No. 1 Bump heirs, 1,080 ft. from N and 1,180 ft. from E lines of SW¼ Section 9-2s-13w, rig up. H. Fotiades' No. 1 LaGrier & Gray, 400 ft. from S and 670 ft. from E lines of SW¼ Section 9-2s-13w, rig up. Chisom & Whisdon's No. 1 Floyd, 70 ft. from S and 1,320 ft. from W lines of SW¼ Section 9-2s-13w, set 10-in. casing at 241 ft. Olin & Hayes' No. 2 N. Y. Central Railroad, approximately 510 ft. from S and 540 ft. from W lines SW¼ Section 9-2s-13w, rigging up rotary. H. Fotiades' No. 1 Walker Community, 580 ft. from S and 830 ft. from E lines of SW¼ Section 9-2s-13w, location. O. L. Ray and others' No. 1 Grayson, 350 ft. from N and 100 ft. from E lines SW¼ Section 9-2s-13w, location. Olin & Hayes No. 1 N. Y. Central Railroad, 1,165 ft. from N and 1,025 ft. from E lines of SW¼ Section 9-2s-13w, set 10-in. casing at 240 ft. P. T. Ward Supply Co.'s No. 1 Nash, 780 ft. from S and 820 ft. from E lines of SW¼ Section 9-2s-13w, spudded. Williams & Lingafelter's No. 1 Epler, near SE cor. SW NE SW Section 9-2s-13w, rigging up rotary. Marvel Oil Co.'s No. 1 Frank Collim, S½ SW SW SW Section 9-2s-13w, rig.

Illinois Fields

HIGHLIGHTS OF THE WEEK: New hot spot in Illinois is Wabash County, on the eastern border of the southern part of the state, where wells ranging up to 2,500 bbl. per day were completed last week, and where many wells are drilling. The hamlet of Keensburg is being subjected to a town-lot development of closely-spaced wells following the completion of wells within the town's limits. Production of the state increased 18,875 bbl. per day in the past week, and new operations numbered 120.

Average daily production of new fields, 302,112 bbl.; old fields, 9,000 bbl.; total, 311,112 bbl.

Oil wells completed, 53; total operations, including locations, rigs and wells drilling, 463.

New Wildcat Operations

New wildcat operations started in the past week included the following, locations, rigs and wells drilling:

In Jasper County, Dan Huddleston's No. 1 fee, 1,650 ft. from E and 990 ft. from S lines of Section 7-8n-11e, rig up.

In Fayette County, Texas Co.'s No. 1 Irey, 330 ft. from N and 451 ft. from E lines NW NW Section 7-6n-3e, location.

In Richland County, Pure Oil Co.'s No. 1 Hunley, SE SE SE Section 22-4n-9e, rig up.

In Marion County, Dorsey Hager's No. 11 Bachman, SE SW SE Section 34-4n-3e, rig up.

In Clay County, Chicago Syndicate's No. 1 Stacer, C N½ NE NW Section 14-3n-7e, a Carter Oil Co. farmout, moving in material.

In Clinton County, J. W. Isabell's No. 1 Dillman estate, NE SE NE Section 12-2n-5w, rigged up and hut down.

In Wayne County, New Penn's No. 1 Xanders, NE SW SW Section 7-2s-9e, rigging up rotary. Carl Robinson No. 1 Stewart, NW NE NW Section 23-2s-8e, location.

In Edwards County, C. G. McFadden's No. 1 Charles Bump, NE SE SW Section 34-2s-14w of second principal meridian, had Cypress sand at 2,625 ft., total depth 2,642 ft, with good saturation, porosity and permeability and no water. The crew was running casing.

In Tazewell County, H. V. House's No. 1 Greening, NW NW SE Section 28-24n-2w, shut down at 190 ft.

In Wayne County, W. C. McBride Inc.'s No. 1 Hurburger, SE NE SE Section 35-5s-6e, location. Penn Illinois Oil Co.'s No. 1 Pyle, SE SE NE Section 12-6s-8e, rigging up rotary.

In Randolph County, Alvin F. Fisher's No. 1 Uchtman, SW cor. NE NW Section 7-6s-5w, rigging up machine.

In Brown County, F. M. Coleman's No. 1 Newenham, 600 ft. from N and 270 ft. from W lines NE SE Section 7-2s-3w of fourth principal meridian, total depth 157 ft., fishing for tools. J. W. Fairbairn's No. 1 Newton, 550 ft. from W and 250 ft. from S lines SE¼ Section 33-2s-4w of fourth meridian, location.

Marion County

In Marion County, Tonti field, Bates & Lichlyter's No. 2 Kagey trustee, SE SW SE Section 33-3n-2e, McClosky pay at 2,125-34 ft., pumped and flowed 625 bbl.

In the Salem field in Marion County, Texas Co.'s No. 8 Miller, NW NE SE Section 32-2n-2e, had McClosky pays at 1,973-2,037 ft., and flowed 1,344 bbl. in 24 hours, total depth 2,080 ft. Texas Co.'s No. 17 Lee, SE NE NE Section 32-2n-2e, McClosky pays at 1,957-84 ft., flowed 51 bbl. in 3 hours, rated at 357 bbl. a day. Texas Co.'s No. 9 Friesner, SW cor. SE SE NW Section 32-2n-2e, McClosky lime top at 1,918 ft., total depth 2,000 ft., flowed 500 bbl. in 3 hours, rated at 3,577 bbl. a day. Shell Oil Co. Inc.'s No. 5-A Farthing, SW SW NE Section 32-2n-2e, McClosky at 1,938-2,013 ft., acidized with 3,000 gal., flowed 2,761 bbl. in 21 hours. Ohio Oil Co.'s No. 9 M. J. Young, NE NE NW Section 29-2n-2e, pay at 1,961-80 ft., flowed 250 bbl. in 20 hours. Magnolia Petroleum Co.'s No. 15 J. R. Young, NW NW NE Section 29-2n-2e, McClosky

pays at 1,936-2,028 ft. at intervals, acidized with 4,000 gal., flowed 216 bbl. in 24 hours. Ohio Oil Co.'s No. 7 M. J. Young, SE SE NW Section 20-2n-2e, McClosky pays at 1,934-2,005 ft. at intervals, acidized with 3,000 gal., flowed 357 bbl. in 8 hours, rated at 1,000-bbl. well. Ohio Oil Co.'s No. 20 M. Young heirs, SE SE SW Section 20-2n-2e, McClosky pay at 1,964-93 ft., acidized with 3,000 gal., flowed 121 bbl. in 10 hours. Shell Oil Co.'s No. 6-B Salem State Bank, NW SW SE Section 20-2n-2e, Aux Vases sand topped at 1,788 ft., total depth 1,870 ft., shot with 25 qt. at 1,837-55 ft., flowed 700 bbl. in 24 hours. Shell Oil Co.'s No. 11 Young heirs, SW SE SE Section 20-2n-2e, Fredonia lime at 1,914 ft., pays at 1,941-63 ft. and 2,003-20 ft., acidized with 2,000 gal., pumped 75 bbl. a day. Haynes & Thomas' No. 2 F. Lee roadway, NE cor. NW NE SW Section 28-2n-2e, McClosky top at 1,993 ft., total depth 2,043 ft., acidized with 3,000 gal., flowed 480 bbl. in 24 hours. Magnolia Petroleum Co.'s No. 31 W. O. Chitwood, SE NE SW Section 28-2n-2e, McClosky at 1,994 ft., total depth 2,060 ft., flowed and pumped 468 bbl. a day. Magnolia's No. 56 J. H. Young, SE cor. SW SE NW Section 28-2n-2e, McClosky pays at 1,962-2,072 ft., at intervals, acidized with 3,000 gal., flowed 1,200 bbl. Texas Co.'s No. 17 J. Chapman, NE cor. NW NE SW Section 28-2n-2e, acidized with 2,000 gal., flowed 74 bbl. in 3 hours, rated at 518 bbl. a day. Magnolia Petroleum Co.'s No. 15 S. Shanafelt, NW SE SW Section 29-2n-2e, Roseclaire top at 1,861 ft., total depth 2,050 ft., pumped 850 bbl. Potter Brothers' No. 14 M. & I. Railroad "A," N½ SW NE SE Section 16-2n-2e, Benoist sand at 1,850-81 ft., shot with 25 qt., pumped 250 bbl. of oil and a showing of water.

Papoose Oil Co.'s No. 1 Weems, NE NW SW Section 20-1n-4e, Marion County wildcat, dry and abandoned at 2,990 ft., top of the St. Louis lime at 2,973 ft.

Texas Co.'s No. 5 E. Farthing C, NW NW SE Section 4-1n-2e, Benoist sand at 1,859-92 ft., pumped 27 bbl. in 3 hours, rated at 189 bbl. a day. Texas Co.'s No. 9 W. Frederick B, SW NE NE Section 8-1n-2e, Benoist sand at 1,822-47 ft., flowed 20 bbl. in 3 hours, rated at 140 bbl. a day.

In St. Clair County, O. Morrow's No. 4 Tarleton, NE cor. SW NW SW Section 27-1n-10w, Trenton lime top at 518 ft., total depth 520 ft., pumped 40 bbl. of oil and 950 bbl. water.

In Monroe County, J. E. Cummings' No. 1 Boyer, SE SW SE Section 19-1s-10w, dry and abandoned at 910 ft.

Fayette County

In Fayette County, A. P. Riley's No. 3 Rhodes, NW cor. NE NW SE Section 27-8n-2e, shot with 30 qt. at 1,580-93 ft., pumped 85 bbl. of oil and 2 bbl. of water. Carter Oil Co.'s No. 2 Bauer, SE SW NW Section 23-8n-3e, shot with 20 qt. at 1,569-77 ft., swabbed 308 bbl. and 100,000 cu. ft. of gas through casing. Carter Oil Co. No. 6 Wright, SE NE NW Section 21-8n-3e, shot with 40 qt. at 1,581-97 ft., swabbed 84 bbl. Carter Oil Co.'s No. 1 Goldie Hedges, SE SW NW Section 21-8n-3e, Bethel sand at 1,537-97 ft., shot with 20 and with 30 qt., pumped 99 bbl. Carter Oil Co.'s No. 1 Ira Boles, NE NW SW Section 21-8n-3e, Bethel sand at 1,564-78 ft., shot with 70 qt., flowed 354 bbl. Carter Oil Co.'s No. 1 Beck, SE NE SW Section 21-8n-3e, Paint Creek sand at 1,453-97 ft., Bethel at 1,510-19 ft., shot with 40 and 80 qt., flowed 48 bbl. and 5,000,000 cu. ft. of gas. Carter Oil Co.'s No. 4 Hopper, SE SW NW Section 14-8n-3e, Cypress sand at 1,473-1,518 ft. and Bethel at 1,585-93 ft., flowed 774 bbl. in 24 hours after sands had been acidized and shot.

Texas Co.'s No. 6 Philbrook, SE NE SE Section 31-7n-3e, Cypress at 1,549-67 ft., pumped 25 bbl. in 3 hours, rated at 175 bbl. per day. Shell Oil Co.'s No. 2 Van Beuming, NW NE NW Section 28-7n-3e, Cypress sand at 1,573-79 ft., shot with 10 qt., pumped 60 bbl. oil and 3 bbl. water in 12 hours. Stewart Oil Co.'s No. 3 Aldrich, NE SW SW Section 21-7n-3e, Cypress at 1,550-71 ft., pumped 35 bbl. Stewart Oil Co.'s No. 2 Aldrich, SE SW SW Section 21-7n-3e, Cypress sand at 1,548-70 ft., pumped 45 bbl. Carter Oil Co.'s No. 6 O. Sidener, NE SE SE Section 19-7n-3e, Cypress sand at 1,550-51 ft., shot with 100 qt., swabbed 468 bbl. Hass' No. 2 Sealock, NW NW NW Section 19-7n-3e, sand at 1,546-71 ft., shot with 40 qt., pumped 100 bbl. Carter Oil Co.'s No. 6 Heckert, NE SW NW Section 20-7n-3e, sand at 1,508-48 ft., shot with 50 qt., swabbed 272 bbl. and some gas. Robert Markham's No. 1 Rhodes, NW SW SW Section 18-7n-3e, Cypress sand at 1,525-50 ft., shot with 10 qt., swabbed 75 bbl. in 12 hours, pumped 120 bbl. in 24 hours. Carter Oil Co.'s No. 3 Harley Yolton, SW NE NE Section 7-7n-3e, sand at 1,558-70 ft., shot with 20, 20 and 40 qt., swabbed 444 bbl. through casing. Carter Oil Co.'s No. 3 Leona, NW SE SW Section 7-7n-3e, sand at 1,483-1,524 ft., shot with 80 qt., swabbed 287 bbl. through casing. Carter Oil Co.'s No. 6 Gosdon, NW SE NE Section 7-7n-3e, sands at 1,468-1,504 ft., 1,531-45 ft., 1,558-75 ft., shot with 30 and with 10 qt., swabbed 504 bbl. from all three sands.

In the St. James area, Lee Drilling Co.'s No. 1 Stine, dry and abandoned at 2,149 ft., McClosky lime at 2,137-49 ft. had a showing of oil and water. Texas Co.'s No. 3 Griffith, NW NE SE Section 25-6n-2e, Cypress sand at 1,580-95 ft., pumped 24 bbl. in 3 hours, rated at 168 bbl. a day.

In Washington County, Shell Oil Co.'s No. 2 Kozuszek, SE SW NW Section 23-3s-3w, Bethel sand at 1,241-77 ft., shot with 21 qt., pumped 104 bbl.

In Schuyler County, Feldheimer & Miller's No. 1 Feldheimer, SW cor. NE SE Section 2-3n-3w of fourth principal meridian, dry and abandoned at 678 ft.

Clay County

Pure Oil Co.'s No. 4 F. Rehymer, C W½ SW NE Section 4-1n-8e, Aux Vases sand at 2,936-52 ft., shot with 20 qt., McClosky lime topped at 3,030 ft., total depth not given, flowed 80 bbl. a day from Aux Vases and 1,000 bbl. from McClosky. Andy Bruner's No. 2 Bothwell, NE NE SE Section 24-2n-7e, pays at intervals from 2,991 to 3,070 ft., total depth 3,081 ft., flowed 54 bbl. in 2½ hours, rated at 154 bbl. a day. Pure Oil Co.'s No. 2 Clay City Banking Co. A, pays at 3,037-3,110 ft. at intervals, flowed 550 bbl. naturally. Pure Oil Co.'s No. 10 Leon Clark, NE cor. SE SE SE Section 7-2n-8e, pays and showings at 3,000-90 ft. at intervals, acidized with 5,000 gal., flowed 73 bbl. in 8 hours, pumped 123 bbl. in 24 hours. J. Sanders and others' SE SE NW Section 18-2n-8e, pays at 2,998-3,002 ft., flowed 231 bbl. naturally in 24 hours.

In Crawford County, Kingwood Oil Co.'s No. 1 Walker, NE NE SE Section 23-7n-13w of second principal meridian, Devonian lime at 2,785 ft., Niagara lime at 2,880 ft., sulfur water at 2,890-94 ft., total depth 2,960 ft., dry and abandoned.

In Bond County, George Weinschell's No. 1 Rickler, SW SW SW Section 6-4n-4w, was dry and abandoned at 2,108 ft., Devonian lime top at 2,023 ft.

In Madison County, R. E. Little's No. 1 Tremont Loyette, NE cor. Section 27-3n-7w, was dry and abandoned at 1,202 ft.

In Montgomery County, Jack S. Brown and others'

(Continued on Page 64)

WESTERN KENTUCKY

OWENSBORO, Ky., Aug. 28.—A 100-bbl. well from Jett sand in the Utica district in Daviess County and a 70-bbl. McClosky lime well were the best completions in the western Kentucky fields, which experienced another uneventful week. Following were the completions and new operations:

Breckinridge County, Cabot district: J. C. Ellis and others' No. 1 Luther Daugherty, moving in. Glen Dean district: L. L. Benoist and others' No. 1 W. R. Moorman & Son, machine on location.

Butler County, Silver City district: M. P. Evans' No. 1 D. O. Givens, dry hole, total depth 515 ft.

Caldwell County, Farmersville district: John Wooten's No. 1 William Morse, moving in.

Daviess County, Handyville district: A. D. Schaffer and others' No. 1 Burns estate, spudding. Habit district: Lion Oil Refining Co.'s No. 5 W. H. Foster, dry hole at 1,590 ft. Utica district: Major Oil Co.'s No. 1 J. F. Leet, rigging up. Baldwin Oil Co.'s No. 2 Dr. A. A. Westerfield, estimated at 100 bbl., Jett sand, total depth 1,187 ft. Yelvington district: D. J. Boling's No. 1 Moreland Taylor, moving in. Birk City district: Major Oil Co. and Palmer Drilling Co.'s No. 8 Mirilda Wahl, rigging up. Martin & Goldberg, trustees', for Arch Carpenter, No. 1 Francis Dempewolf, 70-bbl. well in McClosky lime, total depth 1,890½ ft.

Henderson County, Euterpe district: S. C. Yingling's No. 4 Silas Nunn heirs, spudding in. Spottsville district: Ralston & Sales' No. 2 Anne Stewart, dry hole at 2,170 ft.

Livingston County, Smithland district: J. H. Dunn's No. 1 H. L. Dunn, location.

McLean County, Livermore district: Fred Phillips and others' No. 2 W. Atherton, dry hole at 1,696 ft. Cumberland Petroleum Co. and others' No. 7 D. and S. Butterfield, moving in. W. E. Hupp and others' No. 1 Huckleberry, drilling at 1,400 ft.; good show in Barlow sand, but going to the McClosky lime.

Ohio County, Adaburg district: Leeper Oil Co.'s No. 8 E. Ford, 5 bbl. from Jett sand, total depth 742 ft. Concord district: Claud Trusler's No. 1 Bob Schroeder, spudding in for Corniferous lime test.

Todd County, Clifty district: Hicks & McGraw's No. 1 S. Slaughter, dry hole, total depth 1,055 ft.

EASTERN KENTUCKY

ASHLAND, Ky., Aug. 28.—Deep-test operations in eastern Kentucky are progressing rather slowly. Floyd Fitch has reached a depth of 3,325 ft. and is testing gas with a reported production of 415,000 cu. ft. a day.

The Schmidt Corp. test in Knox County is shut down at 5,005 ft., the contract depth, but with deeper drilling being planned.

Carl Strong found wet gas in Corniferous lime in his test on upper Devil Creek in Wolfe County. Drilling was halted at 1,400 ft. and he has moved down the structure for his second well.

Kentucky-West Virginia Gas Co. reports a production of 984,000 cu. ft. of gas in 72 hours, rock pressure 350 lb., in No. 411 on the Richard Hall land at the head of Right Beaver in Knott County. The well reached a total depth of 2,607 ft. in shale.

Inland Gas Corp. completed No. 209 on the Joseph Pigman land on Troublesome Creek at a total depth of 2,875 ft. in white slate but production figures are not yet available.

In Knott County Inland Gas Corp. is idle at No. 211 on the W. H. Smith land on Cave Branch at Right Fork of Troublesome Creek. Kentucky-West Virginia Gas Co. is cleaning out No. 580 on the H. H. Smith farm on Caney Creek.

In Floyd County Kentucky-West Virginia Gas Co. has reached 1,850-ft. level in No. 5254 on Willard Hamilton land on Branham Creek of Mud Creek with drilling continuing in red rock. Same company is rigging up No. 5258 on the George McKinney land on Deadening Fork of Toler Creek.

In Martin County Kentucky-West Virginia Gas Co. has not yet moved to location of well No. 5257 on the R. C. Stafford land on Gullett Branch of Rockcastle Fork. The same company is at the 1,254-ft. level in No. 5256 on the L. T. Mills land on Ramey Branch of Rockhouse Fork.

In Magoffin County N. B. Sewell & Co. is down 600 ft. in No. 1 on the Sam Powers land at Bear Tree in the Burning Fork district. I. B. Browning is moving to No. 1 on the Houston Patrick land on Houston Patrick Branch in the same district.

Standard of New Jersey Sponsors Exhibit

NEW YORK, Aug. 28.—The federal Government's goal of direct flying training for 10,000 new pilots annually and its encouragement to private instruction has opened a new approach to the aviation industry to oil companies.

In announcing its first direct connection with flight instruction last week, the Standard Oil Co. of New Jersey assembled a group of prominent aviation leaders at a luncheon honoring Capt. William J. Tate, formerly a resident of Kitty Hawk, N. C., at whose home there the Wright brothers lived when they first arrived to conduct their flying experiments in 1900. Captain Tate described their arrival, their early experiments, their difficulties, and their ultimate success.

Climaxing his brief address, Captain Tate urged that a nation-wide movement be started to return the original Wright plane from its present home in England to this country, where aviation was born and where most of the important advancements have been developed. The luncheon and entertainment for Captain Tate marked the start of Standard of New Jersey's sponsorship of the exhibition in the Museum of Science and Industry, Rockefeller Center, called "Wings for America." The exhibit contains a modern, all-metal training plane, various model airplanes, a Link trainer, a slide-film depiction of aviation history, various aviation instruments, and other pertinent information on aviation. It is designed to induce a more widespread interest in civilian aviation. To this end 10 demonstration lectures are given daily. At each talk the lecturer gives a detailed explanation of what makes a plane fly, how the controls operate and how the Link trainer simulates actual flying conditions. At each of the 10 daily lectures a demonstration training flight at Floyd Bennett Field in New York is awarded, during which the student is permitted to handle the controls of the dual-control all-metal training plane in which the flight is made. A complete course of flight instruction is made available to all visitors at the exhibit at a reduced rate.

North Louisiana, Arkansas

By GEORGE WEBER

Columbia Wildcat Still in Uncertain Class; Is Testing

SHREVEPORT, La., Aug. 28.—Atlantic Refining Co.'s No. 1 Pine Woods Lumber Co., a Columbia County Arkansas wildcat, continued as the focal point of interest in the past week as operators prepared to run tests on gas-distillate showings in the Smackover lime. The well had a disappointing lack of oil saturation below the gas section, but the Smackover section and upper sections in the lower Marine formation, the latter showing oil, give operators hope of getting a well.

Another Columbia County well of interest is the outpost to the Buckner field which is also testing this week-end. The Standard Oil Co.'s No. 1 Johnson is on the Smackover lime and outcome of the semiwildcat will be known in a few days. Wildcats and outpost field tests in North Louisiana and East Texas border showed developments to keep exploration in the tri-state area active.

Atlantic Wildcat

A Schlumberger survey in Atlantic Refining Co.'s No. 1 Pine Woods Lumber Co., near Experiment in Columbia County, Arkansas, showed the following tops: Buckner, 8,753 ft.; Smackover lime, 8,788 ft., and first porosity in the Reynolds member of the upper Smackover, 8,801 ft. The porosity in the lime continued tc 8,870 ft., below which the lime became dense and hard. The total depth of the well is 9,000 ft. and its elevation is 220 ft. A string of 5½-in. casing was set on bottom and operators will perforate in the porous lime this week. In case results are not considered sufficiently good in this horizon, the operators may plug back and test the lower Marine at 7,135-61 ft. and 6,950-60 ft., where oil sands were cored but drill-stem tests failed.

Buckner Outpost

To the north in Columbia County, Standard Oil Co. of Louisiana is waiting for casing at No. 1 Nancy Johnson, SW cor. Section 9-16-22. This 1¼-mile eastward outpost to the Buckner field topped the Cotton Valley formation at 5,401 ft., the Buckner at 7,007 ft., the Smackover lime at 7,245 ft., and the first porous section of the Reynolds lime at 7,248 ft. An electrical survey was run to 7,272 ft. and a string of 6-in. casing was set on bottom at 7,272 ft.

Two Smackover lime tests in wildcat locations elsewhere in the South Arkansas trend are gaining in interest as they approach critical markers. Lion Oil Refining Co.'s No. 1 Annie, SE cor. Section 29-15-17, Ouachita County, 4 miles west of Louann, in the old McDonald pool, is drilling below 5,200 ft. in the lower Marine formation, topped at 4,095 ft.

Joe Modisett, prominent wildcatter in South Arkansas, is drilling below 4,000 ft. in No. 2 Union Sawmill, in Section 13-18-12, Union County. This Smackover lime test is on an 8,500-acre block in what is known as the New London area.

A North Arkansas wildcat in Independence County, C. P. Daniels' No. 1 Myatt, is reported to have topped shallow gas sand at 598 ft., and is shut down awaiting orders with no casing in the hole, bottomed at 603 ft.

Cotton Valley Completions

The Cotton Valley field of Webster Parish, Louisiana, gained four new wells, one of them a workover. The Holloway sand is producing in Hassie Hunt's No. 1 Coyle at 5,620-28 ft. Hunt Oil Co. has a new gas-distillate well in No. 1 Coffee on the southeast edge of the field. The Bodcaw sand, productive of the high-pressure gas and condensate in the field proper, is producing in two more wells as a result of a completion and a successful rework job. The new completion, Oliphant Oil Co.'s No. 2-A Hodges is producing 37 bbl. of oil hourly through ¼-in. choke. The well is on the south edge of the field, in the narrow oil producing band of the Bodcaw sand. The fourth well of the week is Stanolind Oil & Gas Co. and W. Delaney's No. 1 Pardee-Coffee unit. This well, originally completed on the southeast edge of the field for a good oil producer, went to gas, and after the operators reperforated it was recompleted for 586 bbl. of oil daily through a ¼-in. choke.

Elm Grove Tests

Prairie River Syndicate's No. 1 Hutchinson, a deep test near Caspiana, on the southern flank of the shallow Elm Grove field, is drilling below 4,200 ft. after topping massive anhydrite at a reported depth of 4,130 ft., 125 ft. higher than in the first Prairie River test, 2½ miles to the south.

Production by Pools

Estimated daily gross production all companies week ending August 25:

NORTH LOUISIANA

	Barrels
Bellevue	480
Caddo light	4,320
Caddo heavy	2,545
Converse	550
Cotton Valley light	*2,925
Cross Lake (1 pumper)	25
De Soto and Red River	1,135
Elm Grove	250
Haynesville	2,750
Holly	90
Homer	2,755
Lisbon	1,525
Pleasant Hill	90
Rodessa	3,680
Sarepta-Carterville	†385
Sligo	Shut in
Sugar Creek	Shut in
Urania	2,570
Zwolle	2,255
Total	28,330

SOUTH ARKANSAS

Atlanta	Shut in
Buckner	Shut in
Champagnolle	1,625
El Dorado	1,695
Lewisville	285
Lisbon	255
Magnolia	Shut in
Miller County	240
Nevada	605
Rodessa	2,550
Schuler	3,035
Smackover light	1,910
Smackover heavy	14,700
Stephens	555
Troy	1,240
Urbana	1,090
Village	Shut in
Total	29,785

Texas side of Rodessa field shut in.

*2,850 bbl. is distillate.
†145 bbl. is distillate.

EAST TEXAS BORDER COMPLETIONS

Rodessa—Marion County

Arkansas Louisiana Gas Co.'s No. 1 B. Sims, 467 ft. from S line, C.E.&W.L. 38-acre tract, C. Grayson Survey, 240 bbl. per day, ¼-in. choke, tubing pressure 180 lb., casing pressure 600 lb., set 5½-in. casing at 6,154 ft., perforated at 6,070-90 ft., total depth 6,154 ft.

Caddo—Marion County

Lee & Durham's No. 2 T. S. Burks and others, 3,162 ft. from N line, 7,300 ft. from W line, M.G. Nail Survey, dry and abandoned 1,150 ft.

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

P. T. Alexander's No. 2 fee, 281 ft. S, 1,815 ft. W of NE cor. SE Section 1-20-16, flowing 95 bbl. per day, used 3,000 gal. acid, total depth 1,605 ft. F. M. Browning and others' No. 1 fee, 330 ft. S, 990 ft. W of NE cor. Section 28-22-16, flowing 90 bbl. per day through open tubing, total depth 2,626 ft. Burton & Harlan's No. 2-A Perche, 500 ft. S, 1,121 ft. E of C Section 1-20-16, pumping 15 bbl. per day, used 3,000 gal. acid, total depth 1,544 ft. S. H. Cassidy and others' No. 1 R. E. Collins, 464 ft. E, 140 ft. N of SW cor. Section 2-20-16, 250 bbl. per day open flow, total depth 1,600 ft. Linham & Jones' No. 3 fee, 200 ft. S, 270 ft. E of NW cor. Section 21-20-15, pumping 10 bbl. per day, total depth 2,242 ft. Texas Co.'s No. 16-B Noel fee, 990 ft. E, 330 ft. S of NW cor. Section 14-21-15, pumping 5 bbl. oil and 23 bbl. salt water per day, total depth 1,654 ft.

Wildcat—Claiborne Parish

Maritsky & Bibby's No. 4 McClung, 208 ft. N, 1,070 ft. W of SE cor. Section 34-22-16, dry and abandoned at 2,465 ft.

Wildcat—La Salle Parish

Placid Oil Co.'s No. 8 Louisiana Central Lumber Co., 1,380 ft. E, 1,120 ft. S of NW cor. Section 19-11-4e, dry and abandoned at 2,037 ft., top Wilcox 1,737 ft.

Munroe—Union Parish

We Hope Gas & Oil Co.'s No. 1 Frost Lumber, 1,980 ft. N, 660 ft. E of SW cor. Section 10-21-3e, 1,000,000 cu. ft. of gas, total depth 2,240 ft. We Hope Gas & Oil Co.'s No. 2 Frost Lumber, Section 25-22-3e, 3,000,000 cu. ft. of gas, total depth 2,227 ft.

Cotton Valley—Webster Parish

Hassie Hunt's No. 1 Coyle, 760 ft. S, 660 ft. W of NE cor. SE Section 22-21-10, 141 bbl. per day through open tubing, casing pressure 250 lb., total depth 5,982 ft. Hunt Oil Co.'s No. 1 Coffee, C SW NW Section 19-21-9, 483 bbl. of distillate per day, $\frac{7}{8}$-in. choke, tubing pressure 2,200 lb., casing pressure 1,100 lb., 7-in. casing at 8,303 ft., total depth 8,667 ft. Oliphant Oil Co.'s No. 2-A Hodges, 660 ft. W, 460 ft. S of NE cor. Section 8-20-10, 37 bbl. per day, ½-in. choke, tubing pressure 1,300 lb., casing pressure 1,400 lb., 7-in. casing set at 8,561 ft., perforated at 8,478-8,506 ft., total depth 8,569 ft. Stanolind Oil & Gas Co. and W. Delaney's No. 1 Pardee-Coffee unit, C NE SW Section 36-21-10, old total depth 8,634 ft., oil well went to gas, recompleted for 586 bbl. oil per day, ¼-in. choke, tubing pressure 1,170 lb., casing pressure 1,300 lb., total depth 8,656 ft.

ARKANSAS COMPLETIONS

Magnolia—Columbia County

Phillips Petroleum Co.'s No. 1 Walthall, C SE SW Section 15-17-20, 425 bbl. per day, 14/64-in. and 20/64-in. chokes, tubing pressure 900 lb., casing pressure 1,200 lb., total depth 7,736 ft. Shell Oil Co., Inc.'s No. 2 Garrett, 485 ft. E, 549 ft. N of SW cor. NE SE Section 13-17-20, 63 bbl. per day, ¼-in. choke, tubing pressure 1,275 lb., casing pressure 1,400 lb., 5½-in. casing set at 7,626 ft., perforated at 7,578-91 ft. and 7,600-22 ft., total depth 7,626 ft.

Rodessa—Miller County

Mrs. S. O. Thompson's No. 1 General American Life Insurance Co., SE cor. SE SW Section 20-14-26, dry and abandoned at 3,851 ft.

Schuler—Union County

Lion Oil Refining Co.'s No. 2-A M. D. Justiss, C S½ NW NE Section 13-18-18, 30 bbl. per hour, 4/64-in. choke, tubing pressure 100 lb., casing pressure 600 lb., perforated at 7,564-88 ft., total depth 7,650 ft.

Oklahoma Operations

By
DAL DALRYMPLE

Cement Townsite Well Finds Rowe Sand Pay Production

The Cement townsite, in the heart of the Cement pool of Caddo County, Oklahoma, was proven productive when Johnson, Rollins and others' No. 1 McKenna, SW NE SW Section 3-5-9w, on townsite Block 16, found oil in Rowe sand at 3,342-73 ft., total depth. The well cleaned itself in about ½ hour and was shut in without a production gage to await official test when the statewide shutdown of producing wells is lifted. Although this is the first producer on the townsite, it offsets production in the east side of the field. The operators, who have several townsite leases, were preparing to start a test on Block 27. Another townsite test was being started by W. H. Riddle and associates on Block 59.

Two wildcats claimed attention at the week-end when they were reported checking high structurally in comparison with other tests drilled nearby. One was J. E. Crosbie, Inc., and others' No. 1 Robbins, SW SW NW Section 6-22-2w, in Noble County between the Billings and Garber pools. It found Layton sand at 3,920 ft., and had good shows of oil in cores at 3,935-49 ft. Operators were drilling ahead around 4,000 ft. Location is on a core-drill and surface structure.

Sinclair Prairie Oil Co.'s No. 1 Ward, SE SE SE Section 30-7-1n, in the Lexington area, Cleveland County, on a highly touted block, was drilling below 6,330 ft. in Sylvan shale topped at about 6,280 ft. After thinning in the upper zones, it found Hunton lime at 6,180 ft., just 100 ft. above the Sylvan formation which checked about 100 ft. higher than in a nearby dry hole.

With the discovery well and its west offset completed in the new Hobart pool, Kiowa County, additional work was due to start right away. Shell Oil Co. was expected to start this week at a location in NW NW SW Section 20-7-17w, south offset to the discovery well. This would force a southwest offset by Phillips Petroleum Co.

The state's deepest well, Continental Oil Co.'s No. 1 Proctor, Section 28-10-20w, Washita County, still had a fishing job at 14,479 ft., total depth.

Several Oklahoma wells were reported completed the past week, but their production gages were taken prior to the statewide shutdown. New wells drilled to the pay during the shutdown are shut in, awaiting testing after lifting of the shutdown. A report of completed wells and new operations follows:

Wildcat Operations

A new producing area in Seminole County was opened at Ellison and others' No. 1 Hyde, NE NE NE Section 3-5-5. Hunton lime was topped at 2,690 ft., Wilcox sand was drilled at 3,290-3,312 ft., total depth, and the hole was plugged back to 2,860 ft. It was shot at 2,710-58 ft., acidized and pumped 10 bbl. of oil in 10 hours. Location is about 1 mile south of the town of Konawa and ¾ mile northeast of the pool recently opened by Culver and Shepard.

In Sequoyah County, Thompson's No. 1 Ruby, NW NW NE Section 30-12-22, found second Wilcox sand at 1,851 ft., green shale 1,865 ft., dolomite 1,912 ft., and was dry and abandoned.

Simpson-Roodhouse Drilling Co.'s No. 1 McKoy, SW SW SE Section 1-2n-7, was location for a wildcat in Pontotoc County, about 1¼ miles north of Stonewall and about 2½ miles northeast of the Fitts field.

Youngblood and others' No. 1 Ellete, SW NE SE Section 6-8-8, about 2½ miles north of Wewoka in Seminole County, was drilling below 1,700 ft.

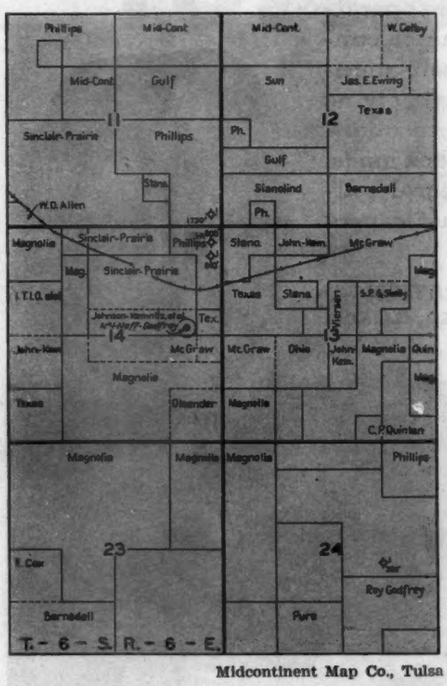
E. P. Kerr's No. 1 Harrington, NW NW NW Section 24-9-4, had dug cellar and pits. It is southeast of the Earlsboro area in Pottawatomie County and about 1 mile northeast of Hotulka.

Pottawatomie County

Magnolia Petroleum Co.'s No. 3 Fyke D, SE NE NW Section 29-7-5, St. Louis district, Pottawatomie County, topped Viola lime at 3,965 ft., total depth 4,103 ft., was acidized and pumped 100 bbl. of oil and 100 bbl. of water daily.

Smith's No. 3 Wood, SW NE SW Section 31-7-5, found dolomite at 4,202 ft., was bottomed at 4,298 ft., in shale, plugged back and ripped casing but was dry and abandoned.

Another failure was recorded at Jones' No. 1 Milsey,



Midcontinent Map Co., Tulsa

Wilcox sand production is the objective of Johnson-Kemnitz Drilling Co. and others' No. 1 Neff-Godfrey, Section 14-6s-6e, Marshall County

SW SW NW Section 22-7-6, which had Wilcox sand at 4,398 ft. and was dry and abandoned at 4,404 ft.

Farmers Mutual's No. 1 Fidler, SE SE SE Section 4-5-5, was a location. Culver's No. 1 Fidler, NE NE NE Section 9-5-5, was a location.

Seminole County

Alma Oil Co.'s No. 1 Lack, SE NW NW Section 3-6-5, Seminole County, was bottomed at 4,320 ft., had nothing showing and was abandoned.

W. A. Delaney's No. 1 Vance, SE NE SE Section 13-6-5, was dry and abandoned at 2,800 ft.

Magnolia Petroleum Co.'s No. 3 Moore, SE NE SE Section 24-9-5, an old well, plugged back from 4,184 ft. to 4,109 ft., perforated without result, and was dry and abandoned.

Pontotoc County

Simpson-Roodhouse Drilling Co.'s No. 1 Lord, NW NE NW Section 3-1n-7, Fitts district, Pontotoc County, had sand at 1,778-94 ft., total depth, gas was estimated at 11,000,000 cu. ft. daily, and it was shut in.

New work in Pontotoc County: Konawa's No. 5 Masters, SW SW SE Section 14-2n-7, drilling below 150 ft.; E. H. Moore's No. 6 Brown, SE NE SW Section 34-2n-7, rig; Phillips Petroleum Co.'s No. 2 Norris, SE NE SW Section 25-2n-6, an old well being deepened from 4,299 ft., drilling below 4,311 ft.; Burke-Greis Oil Co.'s No. 5 Chambers, NW NW NW Section 36-2n-6, an old well bottomed at 4,401 ft., preparing to deepen.

Okfuskee County

Snyder's No. 6 Wind, CEL SW NE Section 35-11-9, an old well in the Okemah area, Okfuskee County, pumped 20 bbl. of oil daily after deepening from 1,469 ft. to 1,509 ft. in sand.

Shell Oil Co.'s No. 3 Keys, NW SE NW Section 11-11-8, Dill pool, was dry and abandoned at 3,420 ft.

Creek County

Sunray Oil Co.'s No. 1 Harris, SW SW NE Section 30-14-7, Creek County, produced 500,000 cu. ft. of gas at 2,926 ft., total depth.

J. E. Crosbie, Inc.'s No. 1 Mosquito, SW NW NE Section 20-17-9, had Bartlesville sand at 2,546-54 ft., total depth, and pumped 48 bbl. of oil in 24 hours.

Strozier Drilling Co.'s No. 1 Stone, NW SE NW Section 20-17-9, Strozier pool, had water in the hole at 2,670 ft., total depth, was plugged back and produced 250,000 cu. ft. of gas at 2,018-38 ft.

Tilley's No. 1-A Bruner, NW SE SE Section 17-17-8, had spudded, and same operator's No. 1 Hayworth, SE SE NE Section 1-17-9, was rigging up machine.

Pawnee County

Johnson Oil Refining Co.'s No. 8 Findley, NE NW NE Section 28-20-9, Keystone district, Pawnee County, had sand at 2,054-2,110 ft., plugged back to 2,085 ft., was shot and produced 140 bbl. of oil daily.

Same company's No. 9 Findley, NE NE NE Section 28-20-9, flowed 50 bbl. of oil after a shot. It had Red Fork sand at 2,055-72 ft., total depth 2,087 ft.

In Payne County, Jones' No. 1 Moore, C W½ NE SE Section 29-18-4w, was a rig.

In Hughes County, McGee's No. 16 Taylor, NE NW NW Section 12-9-10, had spudded.

Southwestern Oklahoma

Largest of two completions in the Tipton area, Jackson County, was Fish's No. 4 Mattie, NW SE NW Section 5-1s-19w. It was bottomed at 2,618 ft., set 7-in. casing at 2,240 ft., and flowed 90 bbl. of oil daily. Burnham's No. 1 Thelma, NE SE SE Section 6-1s-19w, an old well bottomed at 2,594 ft., perforated casing at 2,400-20 ft., and pumped 56 bbl. of oil in 24 hours, recompleted.

In the new Hobart pool, Kiowa County, Shell Oil Co. completed No. 1 Ratliff, SE SE NE Section 19-7-7w, west offset to the discovery well, at 1,243 ft. It was estimated good for 450 bbl. of oil daily.

New work in Jackson County: Ray's No. 2 Nadine, SE NW NW Section 5-1s-19w, drilling below 1,080 ft.; Fox's No. 2 Mary, SE NW SW Section 2-1n-20w, rig; Vaughn's No. 1-A Stokes, NW SW SW Section 11-1n-20w, an old well being deepened from 1,420 ft., drilling below 1,432 ft.; Cotner's No. 1 Grimes, NW NW SE Section 14-1n-20w, drilling below 995 ft.

In Caddo County: Magnolia Petroleum Co.'s No. 1 McKenna, NE NW SE Section 11-5-9w, an old Cement field well being deepened from 2,613 ft., drilling below 2,770 ft.

In Stephens County: Carl Carter's No. 3-B Spears, SE SE NW Section 15-1s-5w, location; same operator's No. 12 Harmon, SW NW NE Section 27-1s-5w, spudded; Helmerich & Payne, Inc.'s No. 1 Wade B, NW NW

SE Section 12-1n-5w, an old well bottomed at 3,866 ft., moving in pumping rig.

Illinois Fields

(Continued from Page 59)

No. 1 Hefley, SW SE SE Section 4-9n-3w, was dry and abandoned at 2,106 ft.; Devonian lime was topped at 2,017 ft. and water appeared at 2,097 ft. to the bottom

Southern Wildcats

In Wabash County Kane and others' No. 1 Partee-Shelbourne, NE cor. NW NE NW Section 6-3s-13w, drilling at 2,080 ft. Phillips Petroleum Co.'s No. 6 Schultz, in Section 7-3s-13w, top of Cypress sand at 2,130 ft., pay at 2,496-2,550 ft., total depth; set 5½-in. casing at 2,497 ft. and waiting for cement to set. Phillips Petroleum Co.'s No. 5, NW cor. NE SW SW Section 7-3s-13w, Cypress sand at 2,492-2,518 ft., total depth, set 5½-in. casing at 2,493 ft. Centralia Refining Co.'s No. 1 Keensburg Cemetery, NW SW SW Section 9-2s-13w, drilling at 1,035 ft. Harry Fotiades' No. 1 Hawkins, SE cor. NW SW SW Section 9-2s-13w, drilling at 925 ft. Davis' No. 1 Brines, NW SW SW Section 9-2s-13w, drilling at 563 ft. Hart & Carroll's No. 1 Nash, NW cor. SE SW Section 9-2s-13w, drilling at 424 ft. Highland Oil Co.'s No. 1 Bump, NW SE NW Section 9-2s-13w, location. Lambert & Jackson's No. 1 M. E. Church, lot, C S½ SW SW Section 9-2s-13w, drilling at 2,390 ft. Neff's No. 2 Bump, NE NE NW Section 9-2s-13w, Cypress sand at 2,398-2,415 ft., total depth, running casing. Chris Pierson's No. 1 Watkins, SW NE SW Section 9-2s-13w, rigging up rotary to deepen from 165 ft. Potter & Bialock's No. 1 Fitzgerrel, NW SE SW Section 9-2s-13w, set 10-in. casing at 210 ft. Rob rts Brothers' No. 1 LaGrier, NW cor. SE SW Section 9-2s-13w, drilling at 1,270 ft. Shell Oil Co., Inc.'s No. 1 Bump A, SW NE NW Section 9-2s-13w, total depth 2,459 ft., plugged back to 2,452 ft. and set 4½-in. casing at 2,423 ft., swabbed 98 bbl. of oil in 24 hours, preparing to shoot. Tatum's No. 1 Lovellette, NW NW SE Section 10-2s-13w, location. Tatum's No. 1 L. Williams, SE cor. NE NE Section 17-2s-13w, Cypress saturated sand at 2,397-2,414 ft., total depth 2,418 ft., set 7-in. casing at 2,397 ft. and drilling plug. Dallas Hawkins' No. 1 Cowling, SE NE SE Section 18-2s-13w, making repairs, total depth 2,187 ft. Bartlett's No. 1 Stansfield, SE SE SE Section 19-2s-13w, drilling at 2,445 ft.

Kingert & Self's No. 1 Elkins, SW cor. SE Section 20-2s-13w, set 10-in. at 60-ft. Finston's No. 1 Hoffman, SE SW SW Section 29-2s-13w, total depth 2,495 ft., set 7-in. casing at 2,475 ft. and will test on the pump. Continental Oil Co.'s No. 2 Schultz, SW SE NW Section 30-2s-13w, set 10-in. casing at 265 ft. Tide Water Associated Oil Co.'s No. 2 Elkins, SW SE SE Section 30-2s-13w, location. Randall and others' No. 1 Schuh Community, NW cor. SW NE SW Section 31-2s-13w, total depth 2,509 ft., plugged back to 2,356 ft., will repair casing and test sand at 2,090-2,100 ft. Myers & Witt's No. 1 Ben Schuh, SW NE SW Section 31-2s-13w, total depth 2,478 ft., pumped salt water and small showing of oil. Olin and others' No. 1 D. and A. Schultz, NE SW SE Section 31-2s-13w, total depth 2,515 ft., set casing at 2,498 ft. Southern Illinois Refining Co.'s No. 1 Schauff, NW cor. NE NE Section 31-2s-13w, location.

In Johnson County Tunnell Hill Oil Co.'s No. 1 J. Boner, W½ SW NE Section 30-11s-3e, drilling at 2,100 ft. with the hole full of water.

In Pope County Gardenshire and others' No. 1 Peoples, C SE SE Section 19-11s-5e, drilling at 380 ft.

In Gallatin County Kingwood Oil Co. No. 1 Egyptian Tie & Lumber Co., C S½ NE SW Section 15-8s-10e, total depth 2,850 ft., plugged back to 2,465 ft., set 7-in. casing at 2,423 ft., and shot with 60 qt. at 2,425-60 ft., cleaning out. Vanderbrook and others' No. 1 Pusick, SE SE NW Section 11-8s-10e, drilling at 1,813 ft. B. Fields' No. 1 Logan, SE SW SE Section 17-9s-9e, drilling at 940 ft.

In Franklin County Phillips Petroleum Co.'s No. 1 Boyles, NE NW SE Section 19-5s-3e, drilling at 1,980 ft.

In Hamilton County Mazda Oil Corp.'s No. 1 Carmi Baptist Orphanage, SE NE SE Section 22-5s-9e, pumping 65 bbl. of fluid per day, 10 per cent oil. Kingwood Oil Co.'s No. 1 Schmuck, SE NE NE Section 2-4s-6e, rig up. Helmerich & Payne's No. 1 Hamilton County Land Bank, SE SE SE Section 6-4s-7e, plugged back to 3,478 ft. and perforated casing at 3,439-41 ft., no show of oil, squeezed and waiting for cement to set. T. F. Morrow's No. 1 Cox C, NW NW NE Section 6-4s-8e, Aux Vases sand at 3,255 ft., total depth 3,282 ft., set 5½-in. casing at 3,235 ft. and waiting for cement to set.

In White County A. C. Watson and others No. 1 Dagley, SE SE SW Section 12-7s-9e, shut down at 300 ft. Sun Oil Co. No. 1 H. J. Garner, SW SE SW Section 1-5s-10e, total depth 3,010 ft., plugged back to 2,961 ft., flowed 63 bbl. of oil in 12 hours from 2,658-93 ft. and 2,806-40 ft., will be put on the pump. Chisom's No. 1 Boultinghouse, C W½ SW SW Section 10-4s-14w, total depth 2,637 ft., perforated casing at 1,604-13 ft., but found no oil showing, shut in for 12 hours it showed no oil when reopened and will be drilled deeper. McIntyre & Johnson's No. 1 Hon, NE NW SE Section 9-4s-14w of second principal meridian, shut down for orders at 3,003½ ft., Ste. Genevieve lime topped at 2,890 ft.

In Edwards County Kingwood Oil Co.'s No. 1 Johnson, SE SE NE Section 18-3s-11e, total depth 3,269 ft., set 5½-in. casing at 3,165 ft. and perforated at 3,140-45 ft., flowed 269 bbl. of oil in 6 hours and was shut in until storage is provided. Kingwood Oil Co.'s No. 1 Steele, NE NE SE Section 18-3S-11e, drilling at 350 ft., a south offset to the Kingwood flowing well. Magnolia Petroleum Co.'s No. 1 Etheridge, SW NW SW Section 18-3s-14w of second principal meridian, drilling at 2,240 ft. Kingwood Oil Co.'s No. 1 Helm, NE NE NW Section 18-3s-14w, drilling at 1,250 ft. C. G. McFadden's No. 1 Charles Bump, NE SE SW Section 34-2s-14w of second principal meridian, Cypress sand at 2,625-42 ft., total depth, good saturation, no water, running casing. Longhorn Oil Co.'s No. 1 Mary Kraft, SW NW SW Section 31-2s-14w, drilling at 630 ft.

In Monroe County Joe Kesl and others' No. 1-A Schmidt, C NW¼ Section 11-2s-11w of third principal meridian, Trenton lime top at 458 ft., set 5-in. casing at 523 ft., drilling at 560 ft. Borden & Ipperson's No. 1 Schuster, NW NW SW Section 13-3s-8w, spudded. Davis & Brand's No. 1 Krause, C SL NW SW Section 30-3s-7w, location. Stewart and others' No. 1 Harvey, NW NE SW Section 11-3s-9w, shut down at 910 ft. Bender's No. 1 Mentel, SW SE SW Section 1-3s-11w, drilling at 600 ft.

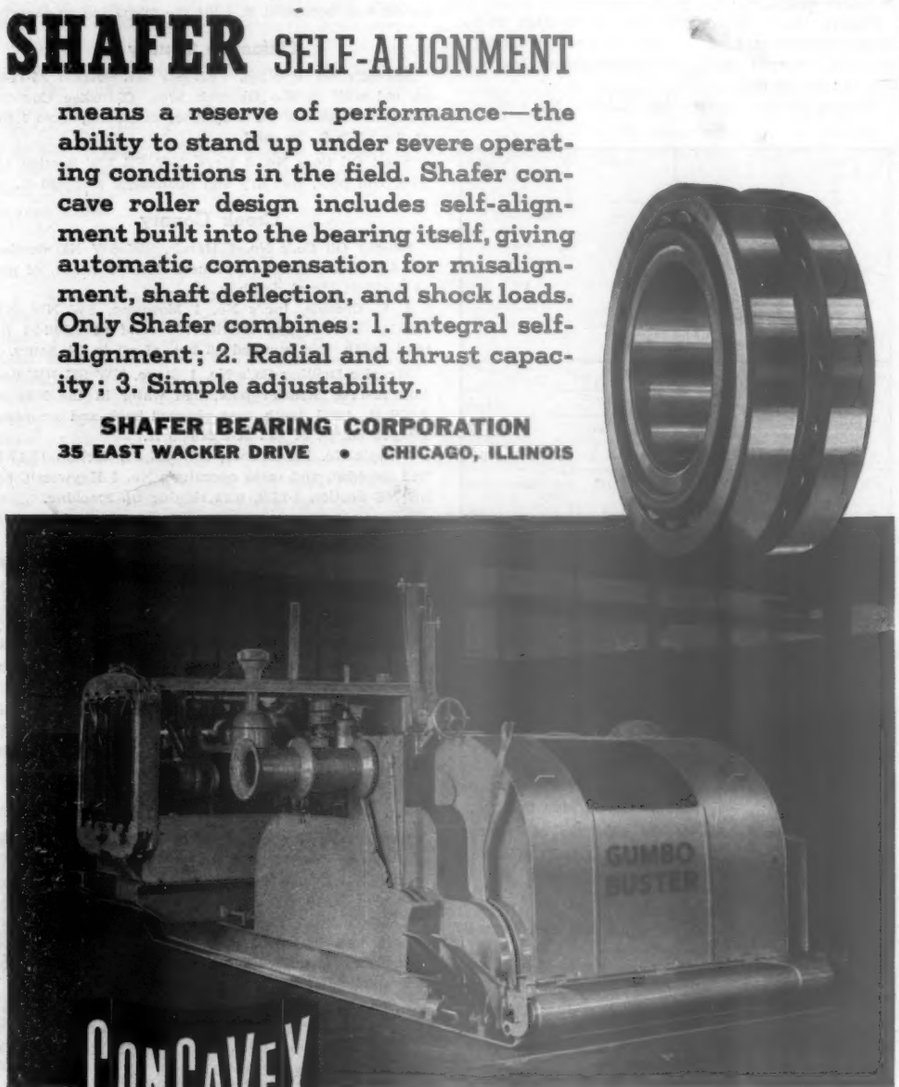
INDIANA

EVANSVILLE, Ind., Aug. 28.—Ten wells were completed in the Indiana fields in the past week, four of

SHAFER SELF-ALIGNMENT

means a reserve of performance—the ability to stand up under severe operating conditions in the field. Shafer concave roller design includes self-alignment built into the bearing itself, giving automatic compensation for misalignment, shaft deflection, and shock loads. Only Shafer combines: 1. Integral self-alignment; 2. Radial and thrust capacity; 3. Simple adjustability.

SHAFER BEARING CORPORATION
35 EAST WACKER DRIVE • CHICAGO, ILLINOIS



"Gumbo Buster" Draw Works built by American Well and Prospecting Company. Drive shafts are equipped with Shafer Roller Bearings

Available in a full range of sizes: Pillow Blocks • Welded Steel Pillow Blocks • Flange Units • Take-up Units • Hanger Boxes • Cartridge Units • Flange-Cartridge Units • Duplex Units • Conveyor Rolls • Radial-thrust Roller Bearings

SHAFER RADIAL-THRUST ROLLER BEARINGS

which were oil wells, and six new operations were started.

In Martin County Norris & Gilmore's No. 1 Strange, SW SE NW Section 28-3n-4w, was dry and abandoned at 491 ft. Ste. Genevieve limestone was topped at 340 ft.

In Pike County P. G. Thomas' No. 1 Sargius, NW NW NW Section 24-1n-7w, was abandoned at 765 ft.

In Gibson County Longhorn Oil Corp.'s No. 1 McCarthy, NW SE NW Section 13-2s-11w, had Ste. Genevive lime top at 1,987 ft., water at 2,077-79 ft., 2,097-2,101 ft. and 2,133-55 ft., total depth 2,200 ft. with no oil showings, abandoned. Ray Ryan and others' No. 1 L. Kleiderer, NE SE NW Section 26-3s-14w. Ste. Genevieve lime at 2,816 ft., McClosky lime at 2,911-33 ft., dry and abandoned. W. F. Lacey and others' No. 1 Julian, NE NW SE Section 26-3s-14w, Glen Dean at 2,275 ft., total depth 2,525 ft., dry and abandoned. Lewis Production Co.'s No. 3 Cooper B, NE NE SE Section 12-3s-14w, pay at 2,504-21 ft., flowed 216 bbl. of oil in 10 hours through tubing, indicating a 500-bbl. well. Hollandsworth & Bander's No. 5 Hughes Cooper, NE cor. SE SE Section 13-3s-14w, Cypress sand at 2,498 ft., pay at 2,502-16 ft., shot with 20 qt., flowed 37 bbl. per hour for 5½ hours through 2-in. tubing, giving it a rating of 850 bbl. per day.

In Spencer County Damron Brothers' No. 1 Wright, C NW NW Section 20-7s-6w, was dry and abandoned at 1,650 ft.

In Posey County a test on the Jolly farm, SW NE NW Section 3-4s-14w, was dry and abandoned at 3,001 ft.

In Vigo County, Siosi Oil Co.'s No. 1 Fenton, C SE SE Section 9-10n-10w, had top of the Devonian lime at 2,080 ft. It had no showing in the first break, but in the second pay at 2,112-30 ft. it flowed 200 bbl. a day with no water, total depth 2,140 ft.

In Sullivan County Gordon Greene's No. 5 Osborn heirs, SW NW SW Section 12-8n-10w, was dry at 823 ft., but not reported abandoned.

New work in the state included the following:

In Gibson County Mid-West Development Co.'s No. 1 Bryant, 400 ft. from W and S lines NW NE Section 15-2s-9w, location. Joe Bander and others' No. 7 Hughes Cooper, NE cor. NW SE SE Section 12-3s-14w, location. Lewis Production Co.'s No. 4 Cooper B, 120 ft. from N and 170 ft. from E lines of SE¼ Section 12-3s-14w, drilling at 302 ft. J. L. Taylor and others' No. 1 Epperson, NE SE NE Section 9-4s-11w, drilling at 212 ft. Hullman and others' No. 1 Hollis, SE SW NW Section 36-2s-11w, location.

In Warrick County L. T. Phippips' No. 2 Phillips, C NE NE SW Section 32-4s-6w (corrected location), drilling at 1,995 ft.

CENTRAL OHIO

NEWARK, Ohio, Aug. 28.—Ohio completions covered by this report number 28 for the week, 12 gas wells, 5 oil wells and 11 dry holes. The wildcat test in Washington Township, Lawrence County is dry in the Clinton sand. Completions and their results follow:

Athens County, Ames Township, D. T. Orndoff's No. 1 H. A. Wolfe, Fraction 23, second Berea 1,576-93 ft., 100,000 cu. ft. of gas. Lodi Township, C. J. Ross and others' No. 5 George P. Ackley, Section 13, first Cow Run sand 468-80 ft., shot with 20 qt.; 25 bbl. settled production. Trimble Township, Ohio Fuel Gas Co.'s No. 171 Sunday Creek Coal Co., Section 32, dry and abandoned at 1,262 ft.

Coshocton County, Perry Township, Section 16, Preston Oil Co.'s No. 6 F. H. Donaker, Clinton sand 3,175-3,225 ft., shot with 90 qt., 87 bbl.

Cuyahoga County, Mayfield Township, Benedum & Trees' No. 1 J. V. Whitbeck, Lot 33, red sand 3,288-3,310 ft., 60,000 cu. ft. of gas, shot with 30 qt., no increase, abandoned.

Guernsey County, Adams Township, Harry Clymer's No. 1 M. K. Wells, Section 3, a small gas well in Berea, total depth 1,220 ft. Monroe Township, Hayes Ferguson's No. 1 John P. Lanning, Section 23, Berea sand dry, abandoned at 1,230 ft. Richland Township, H. A. Burns and others' No. 1 M. W. Consolidated district, Lot 13, sand 430-32 ft., 2 bbl. a day; not shot.

Holmes County, Washington Township, Section 11, Mehowa Oil & Gas Co.'s No. 3 G. E. Huston, Berea 825-31 ft., dry.

Jackson County, Washington Township, Section 10, Kelch Brothers' No. 1 William M. Manning, dry at 695 ft.

Knox County, Clay Township, Meyer Levin and others' No. 1 Harry Clutter, Section 25, 550,000 cu. ft. of gas in the lime at 2,184 ft.

Lawrence County, Washington Township, Section 26, National Drilling Co.'s No. 1 E. C. Culbertson, Clinton sand 2,812-24 ft., total depth 3,170 ft., dry.

Licking County, Mary Ann Township, Guy Shrider and others' No. 3 J. E. Mathews, Section 25, Clinton 2,554-77 ft., 520,000 cu. ft. of gas. Ohio Fuel Gas Co.'s No. 1 Mary E. Glover, Section 6, Clinton 2,652-69 ft., 15,000 cu. ft. of gas, abandoned. William Stricker and others' No. 1 Kate Morris, Lot 8, first quarter, Berea 556-68 ft., dry. Newton Township, Ohio Fuel Gas Co.'s No. 1 William Samuelson, fourth quarter, Clinton 2,575-2,608 ft., 260,000 cu. ft. of gas.

Lorain County, Penfield Township, C. A. McMillen's No. 1 Homer Sooy, Lot 1, Section 2, Clinton 2,441-55 ft., 180,000 cu. ft. of gas.

Meigs County, Rutland Township, Nolan Shuster's No. 2 L. H. Johnson, Section 21, stray sand 606-86 ft., 175,000 cu. ft. of gas. H. M. Wilford's No. 1 C. A. Swick, Section 19, stray sand 658-72 ft., 121,000 cu. ft. of gas.

Monroe County, Benton Township, Braden & Creighton's No. 1 Howard Blazer, Section 17, 473,000 cu. ft. of gas from Keener and Injun sands, total depth 1,583 ft. Center Township, G. K. Rodgers' No. 3 Peter Reisbeck, Section 8, dry at 1,547 ft. Malaga Township, Peters & Huntsmen's No. 1 J. R. Stimpert, Section 16, small Berea grit gas well, total depth 2,101 ft.

Noble County, Beaver Township, Early & Hill's No. 1 H. F. Carpenter, Section 8, small gas well in the Berea, total depth 1,793 ft. Wayne Township, Ohio Fuel Gas Co.'s No. 1, M. W. Consolidated district, Section 33, Berea 1,386-97 ft., 946,000 cu. ft. of gas.

Tuscarawas County, Jefferson Township, Brendel Producing Co.'s No. 3 Marsh Lumber Co., Lot 17, red Clinton sand 4,886-4,919 ft., 60,000 cu. ft. of gas, total depth 4,985 ft.; shot with 60 qt., no increase, abandoned.

Washington County, Fairfield Township, Moore Farm Oil Co.'s No. 2 Dayton Mindling, Section 7, Berea grit missing, abandoned at 1,776 ft. Independence Township, Clift & Harris' No. 1 Glen Clift, Section 27, Peaker sand 740-49 ft., shot with 40 qt., settled production 2 bbl. of oil.

There were no material changes in the tests drilling in the Lima area.

FOR Tough Jobs

IT'S GATKE COMBINATION SETS

In tough service brake lining quality shows quickly. Stamina — Endurance — Resistance to Heat and Wear — stand out sharply in short order.

Perhaps that's why GATKE Deep Well Woven and GATKE Combination Sets of Moulded and Woven Blocks are first choice of oil men for TOUGH SERVICE.

Try them on YOUR Toughest Jobs. They'll show you marvelous performance — the key to greater production with reduced maintenance.

Write for complete information.

25th Gatke Anniversary 1914-1939

BRAKE BLOCKS AND FRICTIONS

GATKE CORPORATION 228 N. La Salle St. CHICAGO, ILL.

Eastern Field Report

By STAFF CORRESPONDENT

Atha Oil Co. Gets Production in Niagara Lime in Ohio Well

PITTSBURGH, Pa., Aug. 28.—Thirty-one operations were completed in the lower eastern fields during the past week which consisted of 4 dry holes, 15 gas wells, and 11 oil wells with a daily initial production of 138 bbl.

SOUTHEAST OHIO

In Madison Township, Columbiana County, Natural Gas Co. of West Virginia topped Corniferous lime at 4,156 ft. in the deep test on the E. W. Strudthof farm and the Oriskany at 4,405 ft. It is now drilling about 6 ft. in the sand.

The best producer for the week was the second test of Atha Oil Co. on the Jacob Morrison farm in Section 15, Union Township, Muskingum County, completed in the Niagara lime at 3,125 ft. After a shot it produced 65 bbl. the first day. The well was drilled a few months ago and had been waiting for a market for the oil.

In Hocking County Preston Oil Co. completed No. 1686 Sunday Creek Coal Co. in Section 23, Ward Township in Clinton sand at 3,502 ft. It will make a 4-bbl. pumper.

In Jefferson County Roy C. Glenn and others drilled a test on the W. H. and Anna Kelley farm, SE¼ Section 13, Island Creek Township, through the Berea sand to 1,240 ft., and it was dry.

In Knox County, Steri C. Brown and others completed a gas well on the Clutter Burras farm in Section 12, Clay Township, in lime at 2,213 ft. It gaged 500,000 cu. ft. a day. At 1,687 ft. there was a showing of gas and oil. In Section 7, Union Township, Ohio Fuel Gas Co.'s well on the John and Ota Harrod farm was completed in Clinton sand at 2,820 ft. and it has a gas volume of 200,000 cu. ft. a day. In Section 13, Union Township, Knox Exploration Co.'s new well on the Robert Alexander farm is good for 200,000 cu. ft. a day from Clinton sand at 2,854 ft.

In Medina County N.Y.O. Oil Co. completed four wells to the shallow Berea grit on the Thomas Brown, Jr., farm in Section 16, Chatham Township. The No. 22 is good for 2 bbl. a day and the other three will be used for water intake wells in a flooding program.

In Muskingum County Atha Oil Co. completed a test on the E. Perrine farm in NW¼ Section 16, Hopewell Township in Clinton sand at 3,328 ft. It has a gas volume of 500,000 cu. ft. a day. In Licking Township, Wilking Co. drilled a dry hole on the C. A. Ikehorn and George Wilking farm through the Clinton sand at 3,117 ft.

In Cuyahoga County, Benedum & Trees are cleaning out after shot in No. 1 Society for Savings land in Mayfield Heights village and it will be a gas well. These operators are drilling at 1,992 ft. on the Schuering lease and spudding on the Wyman farm.

In Mahoning County the test of the Tri State Gas Co. on the T. W. Baird farm in the northeast corner of Poland Township is shut down at 3,950 ft. in the Onondaga lime.

SOUTHWEST PENNSYLVANIA

Eight wells were completed in Southwest Pennsylvania during the week. In Allegheny County, Boyer & Gibson completed a test on the H. L. Humphrey farm in South Fayette Township at 2,515 ft. with 300,000 cu. ft. of gas from the Fifth sand at 2,431-46 ft.

In Harrison Township, Allegheny County, George Gray and others completed a gas well on the Alter farm at 1,515 ft. and it is good for 80,000 cu. ft. a day from the Thirty-Foot sand.

In West Deer Township, Allegheny County, Larkin & Co. are drilling at 900 ft. on the G. Jeuther farm. In South Fayette Township, Homer Nixon and others are drilling at 1,800 ft. on the John Wallace farm.

In Mount Pleasant Township, Allegheny County, McGuigan Oil & Gas Co. abandoned a test on the Alvin Stewart farm at 1,198 ft. because of a bad hole.

In Butler County William Pfeifer completed No. 3 Ira Beame in Jackson Township at 1,445 ft. and it is good for 4 bbl. a day from the Salt and Third sands.

Washington County

In Morris Township, Washington County, Union Gasoline & Oil Corp. completed No. 818 on the G. L. Craft farm at 2,830 ft. with the Fifth sand topped at 2,799 ft., oil at 2,813-22 ft. and good for 15 bbl. a day. This company is drilling at 2,000 ft. in No. 819 J. R. Andrews, same township. Here, A. V. Lewis and others deepening the No. 1 Frank McVay from the Fourth sand through the Fifth and it was dry.

In South Franklin Township the Union Gasoline & Oil Corp. completed No. 3 C. T. Conn farm at 946 ft. with the pay at 942-45 ft. and good for 5 bbl. a day.

In North Strabane Township, Washington County, Keystone Drilling Co. completed a gas well on the Mary V. Neil farm at 1,590 ft. with 235,000 cu. ft. of gas at 1,497-1,501 ft. which blew down to 185,000 cu. ft. a day. In South Franklin Township W. B. McClay is rigged up on the Clark Rankin farm.

Indiana-Westmoreland

In Washington Township, Indiana County, Dr. Mahan and others completed a fair-sized gasser on the Shields farm at 3,540 ft. with sand at 3,305-90 ft. It had a rock pressure of 142 lb. in 40 hours. In this township Equitable Gas Co. drilled the test on the William Parks farm to 3,250 ft. and it was dry and is being plugged.

In Westmoreland County Peoples Natural Gas Co. completed a gas well on the George T. Crawford farm in Allegheny Township at 3,565 ft. good for 231,000 cu. ft. a day with a rock pressure of 900 lb.

Armstrong County

In Cowanshannock Township, Armstrong County, J. C. Sefton and others are drilling at 3,110 ft. on the John Sowers farm with the Tiona sand at 2,800-47 ft. and 60,000 cu. ft. of gas. Ed Young and others are testing at 3,698 ft. in No. 1 Wilda McCurdy. Peoples Natural Gas Co. are drilling at 2,940 ft. in No. 1 Jacob Harkleroad and drilling up bailer at 3,471 ft. in the Jacob Wagner test. L. F. Watson and others are drilling at 3,250 ft. in the Harry Boyer test with the Sheffield sand at 2,910-24 ft. and a fair volume of gas at 2,911 ft.

In Plum Creek Township William M. Collins and others are moving in a rig on the Add Reefer farm. In Parks Township Peoples Natural Gas Co. shot N. F. Altman No. 1 at 3,257-77 ft. and are cleaning out and fishing. In Kiskiminitas Township this company is drilling at 3,652 ft. in No. 1 J. M. Dunmire and deepening on the M. M. Martin farm from 3,400 ft.

In Boggs Township, Apollo Gas Co. is drilling by tools in No. 726 Ed Harkleroad. John Wray and others are down 900 ft. in the test on the Walter Upperman farm. In Manor Township this operator is down 2,327 ft. in the Dora E. Myers test. In Gilpin Township Pleasant Valley Gas Co. made a location on the A. Klingensmith heirs farm.

Clarion County

In Limestone Township, Clarion County, Kimmel Gas Co. is drilling at 587 ft. on the J. P. C. King farm. In Piney Township M. T. Rhea Gas & Oil Co. is drilling at 350 ft. in No. 5 J. M. McKee. In Porter Township Owens Illinois Glass Co. has reached 1,025 ft. in the John Shanefelt test. In Limestone Township the Squirrel Hill Gas Co. is moving material for a second test on the N. A. Sloan farm.

In Elk Township Dempseytown Gas Co. is fishing the tools in the deep test on the George C. Wilson farm at 5,742 ft. where a gas pocket was encountered. The Onondaga lime was topped at 5,520 ft., corrected measurement, and it is believed that the Oriskany sand is missing, with the gas showing in the Helderburg.

Fayette-Greene

In Menallen Township, Fayette County, the Nollem Oil & Gas Co. is drilling at 750 ft. on the Combs farm with the gas sand topped at 678 ft. and gas gaging 500,000 cu. ft. a day from that formation. It was shut off with a packer and is being deepened to the Injun sand which if productive will be produced with the gas sand. In German Township R. B. Vaughn and others are down 2,428 ft. on the Harold Newcomer lease.

In Richhill Township, Greene County, C. L. Sample is drilling at 2,160 ft. deepening the No. 1 J. Phillips. A. Phillips and others are down testing at 2,190 ft. on the E. Sheppard farm. In Springhill Township, the North Eastern Oil & Gas Co. is fishing at 3,290 ft., deepening No. 3 David Null.

In Center Township, Greene County, Morgan Henderson, agent, is drilling at 1,340 ft. in No. 4 J. L. Metz. In Greene Township Fred Garrison has resumed drilling the Henderson Coal Co. test. In Mongahela Township O. I. Dillie and others are testing at 2,350 ft. in No. 1 John Barclay. Brummage and others have started drilling on the H. Durr farm in Greene Township.

Deep Tests

In Armstrong County, Peoples Natural Gas Co. is drilling at 6,415 ft. on the Lowry Martin farm in Wayne Township. The Onondaga should be reached within the week as the previous depth in this test before starting a new hole at 5,826 ft. was 6,572 ft. or 38 ft. in the lime.

On Chestnut Ridge in Fayette County New Penn Development Co., William E. Snee and others are drilling at 3,028 ft. on the Piedmont Coal Co. land in North Union Township.

In Butler County the South Penn Oil Co. is down 2,750 ft. on the M. A. Fowler heirs farm in Concord Township.

WEST VIRGINIA

In Hancock County the R. J. Braden Co. completed No. 26 Hewitt heirs in Grant district at 1,085 ft. Berea sand yielded 2 bbl. a day.

In Lincoln County the test of H. A. Waggoner or the Garrett Gas Co. on the Grant Lovejoy farm in Jefferson district topped Big lime at 1,608 ft. with oil at 1,706-08 ft. and a total depth of 1,730 ft. It is now thought good for 10 bbl. a day.

Gas Wells

In Boone County Ottawa Gas Co. completed a test on the Mary Frances Ellis and others farm in Washington district at 1,430 ft. with the Maxton sand at 1,380-1,412 ft. and showing for 975,000 cu. ft. a day.

In Cabell County R. H. Adkins, trustee, deepened No. 1 Lewis Bledsoe in Grant district starting at 1,658 ft., the Big Injun was at 1,658-1,768 ft.; Berea 2,202-23 ft.; gas gaging 200,000 cu. ft. a day 24 hours after shot and a rock pressure of 390 lb. in 12 hours.

In Lincoln County G. H. Jackson and others completed a gas well on the Caleb Adkins farm in Union district at 1,650 ft. with the Big lime at 1,407-1,545 ft. and gas gaging 475,000 cu. ft. a day at 1,540-45 ft. before the shot.

In Roane County the Bonnett Oil & Gas Co. on the J. R. Bonnett farm in Harper district has a gas well in the Salt sand at 1,619 ft. good for 500,000 cu.

(Continued on Page 81)

Texas and Louisiana Gulf

By NEIL WILLIAMS

Discoveries in Wharton and Brazoria Counties, S. Texas

HOUSTON, Tex., Aug. 28.—In spite of the shutdown order which has curtailed drilling activity in several fields, the Gulf Coast district marked up a rather interesting week of developments as two new discoveries were apparently opened in Brazoria and Wharton counties, and important extensions were being made in several proven fields.

Texas Co.'s No. 1 Peters, a wildcat located on the old Hilje prospect, Wharton County, loomed as the discovery well of a new field as casing was being cemented for a production test after an 11-minute drill-stem test at 5,231-59 ft., tested 590 lb. of pressure and 180 ft. of fluid of which 90 ft. was oil and gas-cut mud, and 90 ft. of salt water with a trace of oil. A previous drill-stem test at 5,203-31 ft. showed 600 lb. of working pressure and 30 ft. of gas-cut mud. The hole is bottomed in salt water sand at 5,300 ft. The well is in the E.R.R.R. Survey No. 101, ease of the Louise field, and just northwest of Texas Co.'s No. 1 Weatherby, a dry hole. The present test topped the round Marginulina at 5,186-96 ft., and is reported to have checked somewhat higher than the dry hole.

Northeast of Lane City, Wharton County, Humble Oil & Refining Co. has derrick up for No. 1 B. D. and J. Schwartz, located 1,399 ft. from the southwest line and 2,332 ft. from the southeast line of a 571.81-acre lease in the T. M. Blake Survey. The location is southeast of Dr. T. M. Neal's No. 1 fee, which is reported on the west side of a large block, held by Humble Oil & Refining Co.

Glenn McCarthy and others' No. 1 Houston Farms Development Co., a "mystery" well in the Chocolate Bayou area, Brazoria County, is reported to be showing for a small producer, while the well cleans out under a light gas pressure. Details of the near-completion have been withheld by the operators, but the well is reported to have been completed in a sand section between 8,900-9,800 ft. The hole is bottomed at depth of 10,380 ft., and the well is said to have shown salt water on two production tests below 10,000 ft.

The South Cotton Lake field, Chambers County, was being extended about 1 mile east as Salt Dome Oil Corp. was moving in 5½-in. casing to test No. 1 Ira R. Williams, after a good section of sand and shale showing oil was cored at 6,494-6,515 ft., the total depth. The well topped the Discorbis at 5,679 ft., Heterostegina at 5,960 ft., and the Marginulina at 6,256 ft. Location is in the James Grant Survey. J. R. Turnbull and others' No. 1 Shepherd, R. A. Porter Survey, was plugged back from a total depth of 6,466 ft., and the well is drilling ahead in a sidetracked depth of 6,615 ft.

The Martha field, a recent discovery in Liberty County, was scheduled to receive its second producer as Stanolind Oil & Gas Co. prepared to test No. 1 Seaberg, south offset to the discovery well. Sand showing oil and gas was cored at 8,085-92 ft., and shale and sand with a gas odor at 8,092-8,114 ft., the total depth. The sand section was topped a few feet higher than the discovery well.

In the same county and located on the southeast flank of the Esperson field, General Crude Oil Co.'s No. 5-B Esperson extended production several hundred feet south when it flowed 858 bbl. a day through a ¼-in. choke. Over 200 ft. of sand was logged, and the well was completed through a series of perforations at intervals from 7,430-7,600 ft.

A west extension to the South China field, Jefferson County, was indicated as Magnolia Petroleum Co. prepared to test No. 1 Broussard. Sand showing oil and gas was cored at 7,795-7,807 ft., and the section showed 4½ ohms resistance and 50 millivolts porosity. Sand carrying salt water was cored at 7,810-14 ft., and sand showing oil and gas at 7,824-26 ft. An electrical survey of the latter sand showed no resistivity, and 7-in. casing was cemented to test at 7,795-7,807 ft. The field was defined to the northeast by the abandonment of George Echols' No. 2 Fontenot. Several attempts to complete the well in the 7,800-ft. sand failed and as a last resort it was tested at 6,689-95 ft., but showed salt water.

Another producer for the north extension area of the Fairbanks field, Harris County, was indicated as Union Producing Co. No. 1 Bradley, recovered 540 ft. of oil, 90 ft. of mud with a salty taste on a 15-minute drill-stem test at 7,005-35 ft. The hole is bottomed at 7,251 ft., and 5½-in. casing was cemented at 7,218 ft. The well is located about 1,500 ft. southwest of Kirby Petroleum Co.'s No. 1 Daniel, the most northerly producer.

In the same county and on the north flank of the South Houston field, Stanolind Oil & Gas Co.'s No. 1 Henry Staiti is shut down at 9,470 ft. The Cockfield was topped at 9,203 ft.

Two interesting wildcats in Galveston and Jasper counties were marked off the list as dry holes. Sun Oil Co.'s No. 1 State, in East Bay, Galveston County, was abandoned at 8,355 ft., while C. B. Bunte and others' No. 1 Cartwright, a Wilcox test in Jasper County, was abandoned in a sidetracked hole at 7,759 ft.

Coastal Louisiana

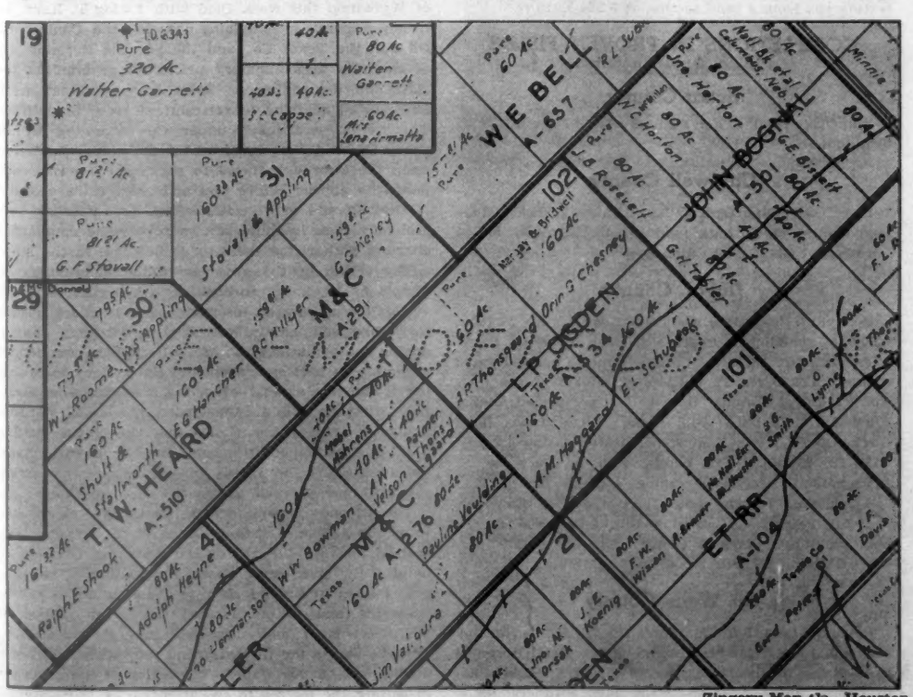
In coastal Louisiana, the completion of two good oil wells in the Golden Meadows field, La Fourche Parish, revived interest in the field and an increase in operations is expected. Martex Petroleum Corp.'s No. 1-A Rebstock Community, Section 2-19s-22e, was completed on a new sand at 5,309-17 ft. for an initial production of 440 bbl. daily through a ¼-in. choke. Tubing pressure was 850 lb. and casing pressure 325 lb. Texas Co.'s No. 2 L. L. & E., Golden Meadows, Section 78-19s-21e, was completed through perforated casing at 7,930-50 ft., flowing 577 bbl. daily through a ¼-in. choke. The completions came at a time when interest in the field was beginning to wane in view of extremely faulted sand conditions. Two other wells scheduled for production tests are M. H. Marr and others' No. 1 Church Property, Section 2. This well was drilled to a total depth of 9,007 ft., and is testing sand in a sidetracked hole cored at 2,647-52 ft., the total depth. Texas Co.'s No. 1 Falgout Holding Co., Section 9, cored sand and sandy shale showing oil at 7,895-7,935 ft., and 7-in. casing was cemented at 7,928 ft.

Production from a new sand was opened at the Venice field, Plaquemines Parish as Tide Water Associated Oil Co. completed No. 10 Manhattan Land & Fruit Co. The hole is bottomed at 7,615 ft., with oil sand logged at 7,457-7,535 ft. The well flowed 35 bbl. of oil in 3 hours through a ⅛-in. choke and was shut in due to the shutdown order.

J. Perry Scranton's No. 2 Martinez, on the La Fourche Crossing prospect, La Fourche Parish, was attracting much attention at the close of the week as 5-in. casing was being cemented for a production test. The well is bottomed at 10,515 ft., and electrical surveys are reported to have logged several promising sands below 9,000 ft. Broken sand and shale with an oil odor were logged the previous week at approximately 10,138 ft. The well is located in Section 132-15s-17e, approximately midway between the Chacahoula and Racefield fields.

Another wildcat in the district being watched with interest is W. T. Burton's No. 1 L.&N.R.R., Section 18-11s-15e, which is attempting to open the first production in Orleans Parish. The well is being prepared for another production test after it swabbed an unestimated amount of oil and showed some gas at a plugged-back depth of 10,175 ft. The same operator's No. 3-B Faubourg de Montluzin, Section 1-11s-13e, was abandoned at 10,425 ft. This operator has done con-

(Continued on Page 89)



Texas Co.'s No. 1 Peters, a prospective pool opener located east of the Louise field, Wharton County

Southwest Texas District

By F. L. SINGLETON

Find New Sand in Reynolds Field in Jim Wells County

CORPUS CHRISTI, Tex., Aug. 28.—Opening oil production from a new sand in the Reynolds field, Jim Wells County, and the testing of important outpost wells in proven fields, held the attention of operators in the Southwest Texas district the past week.

Tom Graham's No. 4-A Mosser, on the extreme west side of the Reynolds field, Jim Wells County, enlarged the potentiality of the field when the well flowed 75 bbl. of 31-gravity oil daily through a 3/32-in. choke under a tubing pressure of 275 lb. and casing pressure 525 lb. Production is from a new sand through perforated casing at 4,814-17 ft. This well apparently defines the 5,100-ft. sand (discovery horizon) as only 3 ft. of sand was logged at 5,138-41 ft. and a 12-minute drill-stem test at 5,212-20 ft. tested 1,480 ft. of salt water. The new sand was logged by an electrical survey and sidewall cores showed sand carrying an oil and gas odor at 4,814-23 ft. On the extreme north side of the structure, this same sand was cored in Texas Gulf Producing Co.'s No. 4-A Miller, indicating that the sand may flank the entire field. The Miller well is bottomed in sand showing oil and gas at 5,135-65 ft. and the 4,800-ft. sand was cored at 4,843-45 ft.

One oil well was added to the field while another well was in the process of completion. Tom Graham's No. 2-A Mosser, was completed in sand at 5,148-52 ft. and flowed 85 bbl. daily through a 3/32-in. choke. The same operator's No. 1-B Mosser is bottomed at 5,182 ft. with 5½-in. casing cemented on bottom.

Another new field for the county was indicated by an attempted blowout of Heyser & Heard's No. 1 Clara Driscoll, 7 miles southwest of Ben Bolt in the La Anima Sola grant. Sand with a slight gas odor was cored at 5,810-23 ft., gas sand at 6,259-67 ft., and the well attempted to blow while coring at 6,760-70 ft.

Other developments of interest in Jim Wells County included the staking of a location in the La Gloria field, and the announcement of a wildcat near the Ben Bolt field. Magnolia Petroleum Co. made location for No. 1 H. Stolze, Lot 16, Block 10, approximately ½ mile from the discovery well near the townsite of La Gloria. Royal Oil & Gas Co. and others are moving in material for an important outpost in the Ben Bolt area, to be drilled on the Garcia lease in the La Trinidad Survey. In the field proper, a 1,500-ft. southwest extension was indicated by Bridwell Oil Co.'s No. 1 W. K. Hoffman which cored oil sand at 5,229-69 ft., and 5½-in. casing was cemented on bottom at 5,275 ft.

One mile southwest of the East Plymouth field, Republic Natural Gas Co. and others' No. 1 A. A. Galler drilled to a total depth of 6,036 ft. and 5½-in. casing was cemented at 5,200 ft. to test a sand at 5,175 ft. Another operation in this county attracting attention is Wellington Oil Co. of Delaware's No. 6 Welder, in the Angelita field, just southwest of the town of Odem. The well is coring ahead following a drill-stem test at 6,883-89 ft. which shows 9 lb. of working pressure, 80 ft. of mud, 100 ft. of oil and 750 ft. of salt water. This field was opened in 1934 but production was short lived and several attempts to revive production failed. The present well is located in the Hart Survey and is scheduled to be drilled to 7,500 ft.

In the same county and in the new extension area of the East White Point field, which includes Corpus Christi Bay, Sinclair Prairie Oil Co. made locations for Nos. 2 and 3 State in tract No. 707. Both wells may be drilled from the same foundation as No. 1 State by using controlled directional drilling.

Phillips Petroleum Co. No. 1 A. C. Gandy, north of production of the Minnie Bock field, Nueces County, showed promise of opening production from a deeper sand by testing 1,620 ft. of pipe-line oil, 60 ft. of mud and 240 ft. of brackish water on a 1 hour and 15 minute drill-stem test at 5,868-80 ft. The perforations have been squeezed off to eliminate the salt water and the well is scheduled to be retested this week. The regular pay of the field is found at approximately 3,800 ft.

Drilling activity along the Pettus trend through the eastern half of Duval County was showing an increase as locations were made for three wildcats and production tests were being made on three wells. Approximately 5 miles northeast of the Benavides field, Sam Cunningham and others have rigged up No. 1 E. A. Lopez in the P. Caballero Survey, Section 14. Two miles northeast of the Thomas Lockhart field, South Coast Oil Corp. is moving in material for No. 1 F. G. Garcia in the H.&G.N. Survey, Section 31. The well is being drilled on a farmed-out lease from the Humble Oil & Refining Co.

Standard Oil Co. of Texas staked location for a Pettus sand test on the Jack Casey lease, Section 26, Lot 4, third addition of Copita Farm Garden tracts in the San Pedro De Charco Redondo Survey.

Approximately 1,000 ft. southwest of the discovery well of the Chiltipin field, Duval County, Hawkins & Howell Drilling Co.'s No. 1 Garcia is showing for a gas and distillate well while cleaning out hrough a ⅛-in. choke under a tubing pressure of 1,400 lb. and casing pressure 1,600 lb. The well is testing through perforated casing at 4,802-15 ft. and it is possible that the well may be killed and recompleted in view of a recent drill-stem test which showed 4,700 ft. of pipe-line oil.

In the Muralla field J. B. Blanchard's No. 2 Atlee Parr, T. C. Rogers Survey No. 298, is shut down awaiting orders after a 25-minute drill-stem test recovered 440 ft. of oil, 110 ft. of salt water and 225 lb. of pressure at 4,729-44 ft. Three previous drill-stem tests at intervals at 4,677-4,718 ft. showed various amounts of gas, distillate and drilling mud.

Prospect of developing oil production in Hiawatha Oil & Gas Co.'s No. 16 Southland Life Insurance Co., the second well to be drilled in the Southland field, was not encouraging and the well is expected to be completed as a gas well. It was drilled to 5,923 ft. and is testing gas from a sand section at 5,284-5,310 ft.

COMPLETIONS IN PROVEN FIELDS

(Up to shutdown order)

Bexar County

Von Ormy field: Roger Putnam's No. 17 Wetz, 659 ft., abandoned.

Caldwell County

Dale field: Ralph Ogden's No. 1 Taley, 2,505 ft., abandoned. Lytton Springs field: Ennis Turner's No. 1 Cardwell, 1,536 ft., abandoned.

Duval County

Benavides field: Hiawatha Oil & Gas Co.'s No. 27 Parr, 6,208 ft., abandoned. Cedro Hill field: Magnolia Petroleum Co.'s No. 16 Duval County Ranch Co., perforated casing 1,425-30 ft., 22 bbl., ⅝-in. choke. Texas Co.'s No. 27 Duval County Ranch Co., perforated casing 1,429-30 ft., 25 bbl., ½-in. choke. Fitzsimmons field: Circle Oil Co.'s No. 1 Mew, perforated casing 4,261½-65½ ft., 45 bbl., ⅛-in. choke. Sun Oil Co.'s No. 17 Brueggeman, perforated casing 4,310-15 ft., 85 bbl., ⅛-in. choke. Rancho Solo field: Clark & Cowden's No. 2-B Peters, perforated casing 1,795-1,805 ft., 50 bbl., pumping. Clark & Cowden No. 3-B Peters, perforated casing 1,776-91 ft., 45 bbl., pumping.

Jim Wells County

Reynolds field: Rand Morgan's No. 2-F fee, perforated casing 5,115-18 ft., 130 bbl., ⅛-in. choke. Rand Morgan's No. 3-F fee, perforated casing 5,121-24 ft., 180 bbl., ⅛-in. choke. South Alice field: Henshaw Brothers' No. 5 Thigpen, perforated casing 5,356-61 ft., 130 bbl., ⅛-in. choke. Shell Oil Co., Inc.'s No. 2 Emma Little, sand 5,329-43 ft., 136 bbl., ⅛-in. choke.

Live Oak County

White Creek field: Coquat, Holland ond others' No. 2 Bonham, 1,435 ft., gas well, spraying some oil. San Jose field: Hamil, Smith and others' No. 5 Kountze, 1,184 ft., abandoned.

Nueces County

Agua Dulce field: L. M. Lockhart No. 2 Winfield, 4,791 ft., 35 bbl. distillate in 22 hours, ¼-in. choke. Union Producing Co.'s No. 4 Purl, 4,820 ft., 45,000,000 cu. ft. of gas, open flow. Luby field: Stanolind Oil & Gas Co.'s No. 15-A McCann, perforated casing 5,055-60 ft., 127 bbl., ⅛-in. choke.

Refugio County

Tomoconnor field: Quintana Petroleum Corp.'s No. 2-B Williams, perforated casing 5,860-68 ft., 617 bbl., ¼-in. choke.

San Patricio County

East White Point field: Plymouth Oil Co. and others' No. 1 W. E. Baker, perforated casing 5,670-75 ft., 120 bbl., 7/64-in. choke.

Starr County

South Ricaby field: W. W. Zimmerman, perforated casing 1,717-25 ft., 80 bbl., pumping. Sun field: Sun Oil Co.'s No. 2 George Speer, perforated casing 4,954-59 ft., 96 bbl., ⅛-in. choke.

(Continued on Page 84)

Wyoming Governor Files Complaint Against Major Companies

DENVER, Colo., Aug. 26.—Nels H. Smith, governor of Wyoming, this week filed with Ewing T. Kerr, attorney general, a complaint accusing the Continental Oil Co., the Texas Co., and the Sinclair Refining Co. of charging discriminatory prices for gasoline in the state and demanding an immediate investigation of an asserted combine in restraint of free competition. This action was taken under the Wyoming Unfair Competition Act of 1931, which makes it mandatory upon the attorney general to notify the accused companies to appear before him and answer the charges. If the answers are unsatisfactory, the attorney general may then institute suit to revoke the companies' charters authorizing them to do business in the state.

The action of the governor followed previous attempts by Wyoming authorities to bring about an investigation of alleged discriminatory practices by the marketing companies. Ray E. Lee, attorney general during the administration of Leslie Miller, commenced an action in 1934 against one of the major companies, but it came to an end when the state Supreme Court held that the N.R.A. superseded the state statutes. Attorney General Kerr holds that the N.R.A. having been declared unconstitutional by the United States Supreme Court, he knows of no reason why action can not now proceed under the state statutes.

The attorney general several weeks ago telegraphed Thurman Arnold, assistant United States attorney general, requesting the aid of the Antitrust Division in helping the state bring about a reduction of gasoline prices. Arnold invited Kerr to Washington to confer upon the matter, but instead the latter replied at length by mail and suggested that the matter be brought before the federal grand jury which convenes in Cheyenne in November. The action of the governor in calling the matter to the attention of the state attorney general followed this correspondence.

Kansas Developments

By DAL DALRYMPLE

Iuka Pool Extended to South; Find Oil at Geneseo Outpost

The statewide shutdown in Kansas resulted in a decline in the number of completed wells the past week, as well as curbing production to the irreducible minimum, but it apparently had no effect on new field work as some 30-odd tests scattered throughout the state were reported for the first time. These included wildcats or extension wells in several counties.

There was no production in the Kansas fields during the week, it was reported at the Wichita offices of the Conservation Division, Corporation Commission. However, oil company production reports show approximately 90,000 bbl. daily for the state. This represents crude runs from leases, the oil having been produced prior to the shutdown and held in storage.

Completions reported during the week included 10 oil wells and 2 gassers. These were wells at which production tests had been made before the shutdown but which had not been completed officially. The initial production figures reported for these wells do not represent actual production for the past week but are based on the preliminary tests. Several wells that ordinarily would have been completed were shut in on top of the pay, awaiting lifting of the shutdown so they can be tested.

Extension of the Iuka pool in Pratt County, ½ mile southward, was indicated at Atlantic Refining Co. and others' No. 1 Hacker, CEL SE SW Section 11-27-13w, about 3 miles north of Pratt City. It found top of Simpson dolomite at 4,355 ft. and recovered 7 ft. of saturated dolomite and 3 ft. of dry dolomite, sand and shale in a core from 4,356 ft. to 4,366 ft., total depth. Seven-inch casing was cemented preparatory to testing when the shutdown is lifted. Cities Service Oil Co. and Skelly Oil Co. are associated with the Atlantic company in the communitized test.

The Geneseo pool in Rice County was extended ¼ mile northeastward at Herndon Drilling Co.'s No. 1 Gray, SW SW NE Section 30-18-7w. It had Arbuckle lime at 3,194-3,207 ft., total depth, and oil rose 900 ft. in the hole. It was shut in until end of the shutdown.

Russell County

Coralena Oil Co.'s No. 7 Sellens, C S½ S½ NW Section 17-15-13w, Coralena pool, Russell County, found Arbuckle lime at 3,213-18 ft., total depth, and pumped an estimated 1,000 bbl. for initial potential.

Four completions reported in the Trapp pool were: Coralena Oil Co.'s No. 7 Sellens estate, NE NW SE Section 29-15-13w. Arbuckle lime was drilled at 3,314-17 ft., total depth, and it pumped 42 bbl. of oil in 8 hours. Initial potential was 125 bbl.

W. I. Southern, Inc.'s No. 4 Sellens, SE SE NW Section 29-15-13w, had pay in Arbuckle lime at 3,326-27 ft.; acidized, pumped 104 bbl. of oil in 8 hours; initial potential 312 bbl. Total depth was 3,328 ft.

Same company's No. 16 Sellens, NW NE SW Section 29-15-13w, pumped 284 bbl. of oil in 8 hours from Arbuckle lime at 3,295-96 ft., total depth, and made potential of 852 bbl. daily.

Trojan Oil Co. and others' No. 1 Fiegler, NE SE SW Section 11-15-14w, had a slight showing of oil in Arbuckle lime at 3,278 ft., but at total depth of 3,304 ft. the hole filled with sulfur water and it was abandoned.

Central Petroleum Co.'s No. 1 Crisman, SW NW NE Section 20-14-14w, wildcat, was bottomed in granite at 3,335 ft. and was dry and abandoned.

Cowley County

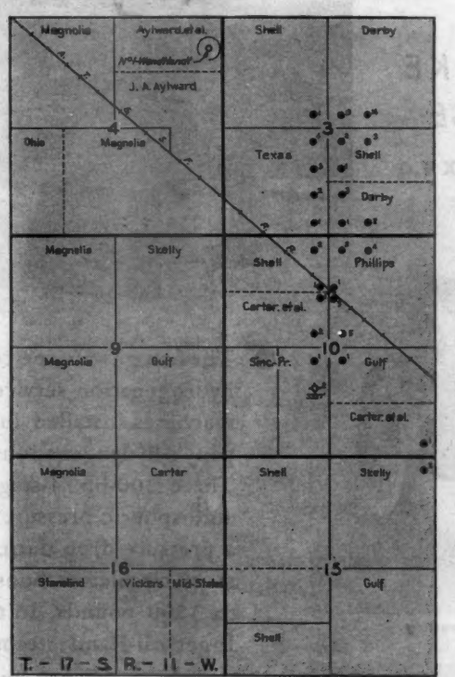
Two failures were reported in Cowley County: McKnab & Blair's No. 1-A King, SW SW NW Section 22-31-4, Hittle pool, was dry and abandoned in Arbuckle lime at 3,490 ft.

Martin Baden's No. 1 Graham, NE SE SW Section 9-32-4, Winfield area, was dry and abandoned at 3,326 ft.

Ellis County

Shell Oil Co., Inc.'s No. 21 Rumsey, SE SW NE Section 23-11-17w, Bemis pool, Ellis County, had Arbuckle lime at 3,407-17 ft., total depth and swabbed 235 bbl. of oil in 4 hours. Maximum potential was 3,500 bbl.

Bay Petroleum Co.'s No. 1-A Ridler, SE SE NE Section 12-11-18w, South Burnett, had 2,800 ft. of oil



Midcontinent Map Co., Wichita

Aylward Production Co. and others are seeking to extend the Kraft pool, Barton County, at No. 1 Wendtlandt, Section 4-17-11w, northwest of production

in the hole from Arbuckle lime topped at 3,365 ft. After acidizing it swabbed 60 bbl. of oil an hour. Maximum potential was 3,500 bbl. Total depth was 3,369 ft.

Reno County

Sinclair Prairie Oil Co.'s No. 3 Schroeder, NW NE SE Section 36-22-5w, Buhler pool, Reno County, was completed as a water-disposal well. At total depth of 4,585 ft. the well took 500 bbl. of water an hour.

Westgate-Greenland Oil Co.'s No. 2 Wood, SE SW NE Section 36-22-5w, topped Simpson sand at 3,916 ft. and pumped 296 bbl. of oil in 8 hours. Initial potential was 887 bbl. daily. Total depth was 3,921 ft.

Barton County

Frank Hollow and others' No. 1 Schartz, SE SE NW Section 18-20-11w, Clawson pool, Barton County, had Arbuckle lime at 3,308-35 ft., total depth, pumped 36 bbl. of oil in 8 hours and made potential of 107 bbl. daily.

Sumner County

Champlin Refining Co.'s No. 1-B Latta, SW SE NW Section 9-30-2w, Sumner County, topped Kansas City pay at 3,020-56 ft.; was bottomed at 3,225 ft.; plugged back to 3,056 ft.; acidized and swabbed 115 bbl. of oil in 24 hours.

Stevens County

Panhandle Eastern Pipe Line Co.'s No. 1 McClure, C SE Section 4-32-38w, Hugoton field, Stevens County, was completed for 18,000,000 cu. ft. of gas daily. Gas pay was found at 2,440-2,580 ft., total depth 2,715 ft.

Eastern Kansas

Katz Oil Co.'s No. 1-A Jackson, SW SW SW Section 1-25-8e, Teichgraber pool, Greenwood County, was dry and abandoned at total depth of 2,338 ft.

Earl Wakefield and others' No. 1 National Life Insurance, C NW NE Section 17-6-20, an Atchison County wildcat, was abandoned at total depth of 2,790 ft. when the hole filed with sulfur water.

C. L. Sheedy and others' No. 1-A Pingery estate, SW SE SE Section 22-25-15e, Woodson County, was reported dry at total depth of 1,583 ft.

Pratt County

Skelly Oil Co.'s No. 1 Royce, C SW Section 9-28-11w, Cairo gas field, Pratt County, had Viola lime at 4,246-68 ft., total depth; was shut in for 7 hours, opened and sprayed some oil and water with gas gaged at 1,110,000 cu. ft. daily.

New Operations

In Cowley County: F. G. Hall and others' No. 1 Olsen, NE NE SW Section 6-35-8, cellar; McKnab & Blair's No. 5 Hittle, NW SW NE Section 21-31-4, rigging up rotary; Trees Oil Co.'s No. 1-B Lewis, NW NW NE Section 28-31-4, rigging up rotary; W. M. McKnab's No. 2 Southwestern College, SE NE SE Section 11-32-4, rig; Smith, Pryor & Lockhart's No. 1-B Kingsbury, SW SE SW Section 4-33-6, moving in machine; Pryor, Lockhart & Foster's No. 1 Haney, C E½ SE NE Section 8-33-6, rigging up rotary.

In Ellis County: Dickey Oil Co.'s No. 4 Carmichael, C S½ SW NW Section 18-11-17w, rigging up rotary; Cities Service Oil Co. No. 2 Calahan, NW NW SW Section 24-11-17w, building rotary rig.

In Barton County: Shell Oil Co.'s No. 9-A Hoffman, SW cor. Section 7-16-13w, drilling below 1,765 ft.

In Woodson County: McCormick and others' No. 2 Specht, NW NW NW Section 34-25-14, machine.

In Johnson County: B. F. Hammel and others' No. 2 Ballard, NW SE SE Section 4-12-24, rigging up machine.

Missouri Operations

ST. JOSEPH, Mo., Aug. 28.—A report of free oil showing in the hole at Mayson Oil Co.'s No. 1 McGonigle, CNL SE NW Section 20-63-13w, Adair County, northeastern Missouri, attracted attention of operators in the Forest City basin and adjacent areas the past week. The oil showing was found at 1,116-63 ft., and operators were drilling ahead slowly and were preparing to plug back and test if nothing is found in deeper pays. This wildcat first attracted attention about 10 days ago when a rainbow showing of oil was found at 1,002 ft.

A showing of oil also was reported in a Mercer County test at George W. Moore and others' No. 1 Moss, NW SW SE Section 30-65-24w, at about 1,400 ft. Hunton lime was topped at 1,273 ft. Same operators' No. 1 McQuate, NE SW SW Section 11-57-31w, DeKalb County, was expected to resume work within the next 2 weeks, after having been shut down since late in July.

After announcing it had bottomed its No. 1 Williams,

(Continued on Page 84)

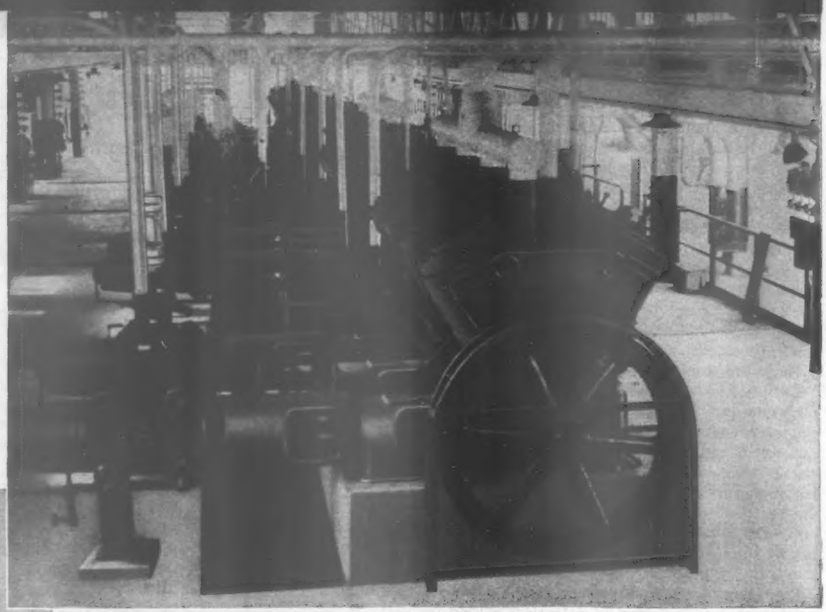
The first GAS-ENGINE COMPRESSORS

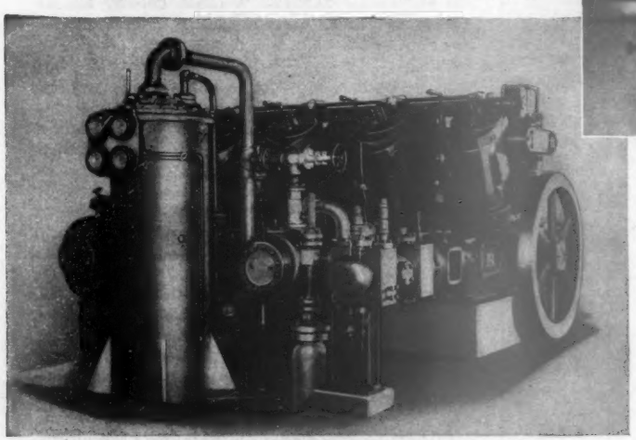
in

HIGH-PRESSURE HYDROGENATION SERVICE

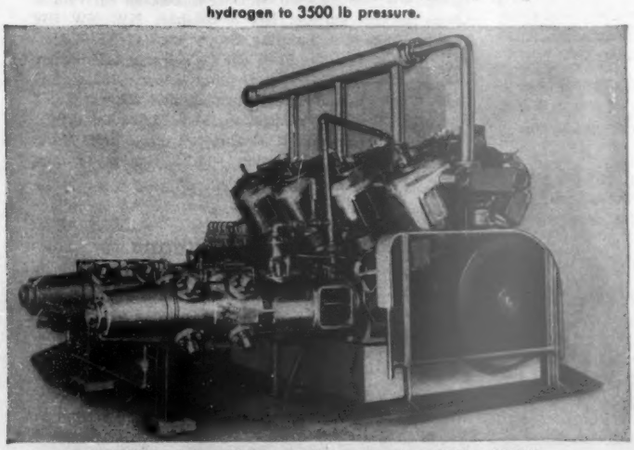
ATMOSPHERIC INTAKE 3500 LB. DISCHARGE

INGERSOLL-RAND TYPE XVG





One of the three 4-stage XVG Compressor units compressing hydrogen to 3500 lb pressure.



An XVG circulator which boosts the pressure from 2800 to 3500 lb.

● The first gas-engine-compressors built for high-pressure hydrogenation service are 5 Ingersoll-Rand Type XVG machines installed in the Lago Oil & Transport Company's hydrogenation plant at Aruba, Dutch West Indies. Three 300-hp, 4-stage units compress hydrogen from atmospheric pressure to 3500 pounds discharge. After a pressure drop during processing, two 300-hp, single-stage circulators boost the pressure from 2800 pounds to 3500 pounds. In this latter service there is also an Ingersoll-Rand steam-driven Type XPV compressor.

Four of the five hydrogenation plants in the United States use I-R compressors exclusively for high-pressure work, and they have also been adopted in two plants abroad. These installations aggregate 13,500 hp in primary 4-stage machines, and 5500 hp in circulators. They include electric-, steam-, and gas-engine-driven units in both classes, in sizes up to 1250 hp.

Not only in hydrogenation service, but in the field of high-pressure work as a whole where 24-hour full-load operation is essential, Ingersoll-Rand compressors exceed all other makes in total horsepower. The extensive experience our engineers have had with high-pressure problems insures intelligent and helpful collaboration with the oil industry in choosing the most economical and effective equipment for any high-pressure service.

Atlanta	Dallas	Knoxville	Salt Lake City
Birmingham	Denver	Los Angeles	San Francisco
Boston	Detroit	Newark	Scranton
Buffalo	Duluth	New York	Seattle
Butte	El Paso	Philadelphia	St. Louis
Chicago	Hartford	Picher	Tulsa
Cincinnati	Houston	Pittsburgh	Washington
Cleveland	Kansas City	Pottsville	777-1

Ingersoll-Rand

11 BROADWAY, NEW YORK, N.Y.

North and East Texas

By D. H. STORMONT

Voth Pool South Extension; Sikes Outpost Big Producer

WICHITA FALLS, Tex., Aug. 28.—Staking of a mile northeast outpost to the Rogers pool in Montague County and the further linking of the Hull-Silk pool and the Sikes area in Archer County, together with a south extension to the Voth pool in Cooke County, constituted a busy week in the North Texas district.

A wildcat location 1 mile northeast of the Rogers area, and 1 mile west of Nocona in Montague County, was staked as the week closed by Fred Snuggs and K. R. Neal as No. 1 Harvey Gentry. Location is 1,290 ft. from the north and 200 ft. from the east lines of a 5½-acre tract in the J. D. Jennings Survey. The location is ⅛ mile northeast of Youngblood & Foree's No. 1 Davis, Jennings Survey, which opened a 4,300-ft. pay. No. 1 Davis was reported to have flowed 68 bbl. of oil in 2 hours through tubing. The well has been plugged back from 4,670 ft., the regular producing horizon, and casing perforated at 4,310-38 ft.

More definitely linking the Hull-Silk pool with the Sikes area to the northeast, Deep Oil Development Co. and R. & G. Drilling Co.'s No. 1 Dr. J. A. Little, SW cor. NE of Block 2, H.&T.C. Survey, Abstract 811, flowed 92 bbl. of oil in 1 hour from a section of saturation drilled from 4,320 ft. to 4,343 ft., total depth. This well is a southwest outpost to the Sikes pool and is one of the most important link wells completed since the linking of the two areas was indicated several weeks ago. New locations are featuring the area and the next 2 months of drilling, if continued at the present rate, will do much to determine the true scope of that district.

Also in Archer County, British American Oil Producing Co.'s No. 1 Parkly, a north offset to the No. 1 T. B. Wilson discovery well, flowed 750 bbl. of oil through casing in 24 hours. Pay was drilled at 4,653-84 ft.

Cooke County's Ordovician Voth pool, 2 miles south of the Muenster townsite, was assured a ¼-mile south extension as the week closed. Staley & Curtis Sanford's No. 1 Barney Voth, ¼ mile south of the pool, blew in and flowed at the estimated rate of 2,000 bbl. daily before being shut in. Saturated Ellenburger lime was topped at 1,708 ft. and penetrated only a few feet when the well started flowing. Location is on a tract of 240 acres, 750 ft. from the northwest line and 1,780 ft. from the northeast line of the M. E. Matson Survey, Abstract 694. Sanford, who operates a refinery at Gainesville, has indicated that if more wells are brought in on the tract a pipe line will be constructed to the field.

Production possibilities in a previously temporarily abandoned wildcat test in Clay County highlighted that area. L. T. (Bobby) Burns' No. 1 Calloway, ½ mile northwest of the Burns pool discovery well, abandoned some weeks ago due to an excess of water, was found to have 1,700 ft. of oil and 700 ft. of water in the hole. Test was shut down after production failed from the 4,600-ft. level. The oil in the hole is reported coming from a new horizon at 4,430 ft. to 4,454 ft., total depth, plugged back. The operator will plug back again in an attempt to completely shut off the water then shoot the section and attempt completion.

In Grayson County a new wildcat seeking shallow production, and an offset to the discovery well in the northern part of the county, indicated a revival of shallow exploration in the county. John Gray of Gainesville was preparing to start No. 1 Brown, J. Dodgin Survey, Abstract 377, 3 miles southwest of Pottsboro. Contract depth will be 1,400 ft., however, it will primarily seek production from the 1,100-ft. sand. George Ross, Emmett Marshall and Reed & Farrney have made location for No. 2 Christman, M. L. Ahalt Survey, Abstract 1327, as an east offset to No. 1 Christman, completed at 832 ft. for 15 bbl. of oil daily. It is 3 miles north of Pottsboro.

NORTH TEXAS COMPLETIONS

(Week ending August 26)

Archer County

Bridwell Oil Co.'s No. 4 J. S. Bridwell, 886-938 ft., 10 bbl. Bridwell Oil Co.'s No. 5 J. S. Bridwell, 879-910 ft., 12 bbl. Bridwell Oil Co.'s No. 6 J. S. Bridwell, 891-935 ft., 11 bbl. Fresno Oil Co.'s No. 23 H. O. Prideaux, 685 ft., dry. W. T. Hutcheson, Jr.'s No. 1 C. C. Conner, 1,410 ft., dry.

Cooke County

A. D. Robinson's No. 13 J. H. Otto B, 1,305-26 ft., 35 bbl. Wallace and others' No. 4 J. R. Winstead, 1,170-1,210 ft., 12 bbl.

Jack County

E. B. Evans' No. 3 W. M. Jackson, 453-58 ft., 8 bbl. E. B. Evans' No. 4 W. M. Jackson, 464-69 ft., 10 bbl.

Wichita County

Douglas Production Co.'s No. 12 L. P. Douglas B, 1,036-47 ft., 2 bbl. Grace & Wood's No. 5 M. A. Love, 3,885-4,025 ft., 848 bbl. Montgomery-Woodlief's No. 3 F. M. Weaver, 1,273 ft., dry. H. R. Phillips' No. 1 Mack Thomas, 800 ft., dry. Ross Drilling Co.'s No. 6 Sue Mitchell, 3,881-83 ft., 720 bbl. Shell and Phillips' No. 8 D. R. Preston, 3,929-4,001 ft., 1,100 bbl.

Young County

Dr. R. H. Larsen's No. 1 E. M. Remington, 710 ft., dry.

NORTH TEXAS COMPLETIONS

(August 13 to 19)

Archer County

Blackwell Oil & Gas Co. and Helmerich & Payne's No. 4 Wilson, 4,300-32 ft., 1,000 bbl. Carpenter's No. 2 J. D. Carpenter, dry and abandoned at total depth of 929 ft. Cable Oil Co.'s No. 7 Charles A. Thuma, 970-79 ft., 10 bbl. Fresno Oil Co.'s No. 24 H. O. Prideaux, dry and abandoned at total depth of 714 ft. B. C. Gilmore's No. 1 L. G. Williams, dry and abandoned at total depth of 770 ft. Johnson & Mitchell's No. 2 C. L. Abercrombie, 1,303-31 ft., 5 bbl. Louis Skies' No. 3 O. T. Anderson, 4,385-4,418 ft., 600 bbl. C. H. Staley's No. 2 Anna Mangold, 3,750-3,863 ft., 585 bbl. White, Duncan & Dye's No. 3 W. P. Ferguson, 3,809-67 ft., 480 bbl.

Clay County

N. H. Martin's No. 2 C. J. Sumake, dry and abandoned at total depth of 4,326 ft. Bridwell Oil Co.'s No. 1-B Furd Halsell, 4,749-87 ft., 912 bbl. Consolidated Oil Co.'s No. 1 A. H. Bevering, dry and abandoned at total depth of 3,090 ft.

Cooke County

C. & L. Oil Co.'s No. 5 S. S. Perkins, 874-87 ft., 42 bbl. Trumpter Oil Corp.'s No. 1 F. Hesse, dry and abandoned at total depth of 1,982 ft. McDaniel & Beerchert's No. 1 J. Weisman, dry and abandoned at total depth of 1,034 ft. W. H. Peckham's No. 1 S. D. Meador, 1,512-32 ft., 220 bbl.

Wichita County

Bell Oil & Gas Co.'s No. 40 J. M. Powell, 1,207-40 ft., 5 bbl. Bell Oil & Gas Co.'s No. 41 J. M. Powell, abandoned location. D. H. Bolin's No. 7 D. R. Preston, 3,927-4,011 ft., 480 bbl. P. Browning's No. 1 C. F. Ancell, 3,946-4,003 ft., 30 bbl. Alex McCutchin's No. 6 L. C. Denny, 3,814-4,003 ft., 217 bbl. George Proctor's No. 37 Ed Foster, 1,681-94 ft., 36 bbl. Magnolia Petroleum Co.'s No. 152 Hugh Reilly, 1,402-26 ft., 81 bbl. Buffalo Oil Co.'s No. 16 W. P. Ferguson, 3,710-3,815 ft., 460 bbl. Buffalo Oil Co.'s No. 19 W. P. Ferguson, 3,719-3,819 ft., 360 bbl. C. W. Cooper's No. 55 J. L. and J. T. Waggoner, 3,719-65 ft., 848 bbl. Grace & Woods' No. 2 C. Birk, 3,887-4,025 ft., 1,192 bbl. R. Kohlman's No. 15 C. A. Mertens, 1,248-96 ft., 2 bbl. G. A. Morgen's No. 1 C. A. Mertens, 934-41 ft., 4 bbl. Panhandle Refining Co.'s No. 14 S. E. Burnett, 1,407-27 ft., 4 bbl.

Baylor County

British American Oil Producing Co.'s No. 1 F. C. Green, dry and abandoned at a total depth of 4,326 ft. Consolidated Oil Co.'s No. 1 F. C. Green, dry and abandoned at total depth of 3,225 ft.

Jack County

Belew & Rounsaville's No. 1 W. M. Crowley, dry and abandoned at total depth of 485 ft. B. C. Gilmore's No. 4-A F. C. Bloodworth, 309-16 ft., 7 bbl. H. S. Grace's No. 3 H. Hoefle, 417-30 ft., 20 bbl.

Wilbarger County

Consolidated Oil Co.'s No. 1 W. T. Waggoner estate, 3,985-4,065 ft., 248 bbl. oil and 25 bbl. water.

Young County

Horwitz & Oldom's No. 12 F. C. Green, dry and abandoned at total depth of 734 ft. R. Johnson's No. 1 D. M. Spearman, dry and abandoned at total depth of 585 ft. Kleiner and H. Y. Oil Co.'s No. 65 C. W. Langston, abandoned location. Knox No. 7 E. R. Manning, abandoned location. Petroleum Producing Co.'s No. 1 G. P. Stewart, dry and abandoned at total depth of 918 ft.

EASTERN TEXAS

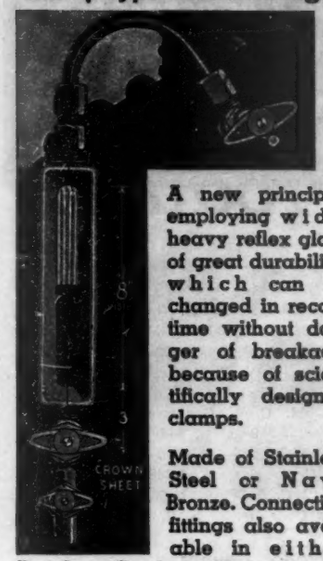
DALLAS, Tex., Aug. 28.—Activity in the eastern Texas district showed a considerable slump as a result of the 15-day shutdown. Only three completions were recorded for the East Texas field, these having a combined initial potential of 186 bbl. per hour. There were four new locations staked in the field, three being in Gregg County and one in Rusk County. The East Central Texas area registered four completions, three of which were wildcats, and the entire number were dry and abandoned.

The wildcat exploration campaign continued its pace as three new locations were staked. Just north of the Satin field of Falls County, Gurley Oil Co. has located No. 1 J. L. Davis, P. Zarza Survey, Block 1. It will seek the shallow pay of the Satin field. Southwest of the Flag Lake field of Henderson County, Topaz Oil Co. has located No. 2 W. J. Trammel, A. C. Kyser Survey. Production will be sought from the Woodbine sand. In Trinity County, Gossage and others have staked No. 1 First National Bank, B. F. Wright Survey, north of the town of Trinity.

One of the benefits derived from the 15-day oil well shutdown in Texas has proven to be the increase in bottom-hole pressures in the East Texas field. Average bottom-hole pressure in the field has already gone up more than 30 lb. as a direct consequence of the idle production, according to Railroad Commission reports. Tests by the commission revealed an average pressure of 1,114.8 lb. as compared with 1,083.4 lb. on August 8. Commission officials are hopeful that bottom-hole pressures will increase during

(Continued on Page 81)

INFERNO
"Clamp Type" Reflex Gauges



A new principle, employing wide, heavy reflex glass of great durability, which can be changed in record time without danger of breakage, because of scientifically designed clamps.

Made of Stainless Steel or Navy Bronze. Connecting fittings also available in either Stainless Steel or Navy Bronze.

WRITE FOR BULLETIN 19-A

THE INFERNO CO.

"Makers of Better Steam Equipment"

Post Office Box . . . 1138

SHREVEPORT, LA.

SOLD THROUGH LEADING SUPPLY STORES

RED DEVIL
LINER PULLER for SLUSH PUMPS UNIVERSAL TYPE

The RED DEVIL LINER PULLER for Slush Pumps pulls the most obstinately stuck Liners, (HARD or SOFT surfaces), easily and quickly with a saving of time and money. *It does not injure the* FINISHED BORE—*thus Liners may be replaced in the pump if desired.* It is adjustable to fit Liners of different size bores and lengths. Easy to operate and lasts indefinitely. • *Bulletin 109-B gives full particulars. Write for it.*

OIL WELL MFG. CORP.
6000 SOUTH ALAMEDA STREET
LOS ANGELES, CALIFORNIA
CABLE ADDRESS "OWMCO"

Among the Drilling

R. & G. DRILLING CO. (H. L. Rugeley and R. M. Glass), Wichita Falls, Tex., have clinched another link in the area between the Hull-Silk pool and the Sikes pool of northern Archer County, North Texas. The drilling company, associated with Deep Oil Development Co., also of Wichita Falls, drilled saturation in the lower Strawn-sand pay of the field from 4,320 to 4,343 ft., total depth, where the well flowed 92 bbl. of oil in 1 hour through tubing. Casing pressure was gauged at 150 lb. and tubing pressure at 25 lb. at the end of the hour test. Seven-inch casing had been cemented at 4,316 ft.

TAUBERT & McKEE DRILLING Co., Fort Worth, Tex., has staked an outpost to the one-well pool which it opened for Nelson Oil Syndicate in western Jack County several weeks ago. The drilling company has staked its No. 1 H. C. Shanafelt, J. Poitevent Survey, just west of the discovery and over the line into Young County. Pay in the deep discovery was found at 4,383 to 4,404 ft. in the Caddo lime. Taubert & McKee were the drilling contractors for Nelson Oil Syndicate at its discovery well.

HOLCOMB & THOMASON, Shreveport, La., have the drilling contract on a new test in the recently opened gas-distillate area in Panola County, East Texas border. It is for Turner & Smith, of Henderson, and will be their No. 1 Panola County Development Co., 6,000 ft. northeast of their discovery well in the George Gillespie Survey. Contract depth calls for 5,000 ft. and the test is the first of several planned for the new area.

HARRIS DRILLING CO., San Antonio, Tex., has the contract for the deepening of a wildcat test 6 miles north of the town of Cuero in De Witt County, South Texas. Wildcat is G. M. Richardson, of Fort Worth, No. 1 McCurdy in the John C. Hunt Survey. The wildcat has been shut down temporarily at 1,650 ft. since Richardson's death a week ago. It previously had tested a gas sand at 1,078 ft. Under the supervision of A. W. Glazier, of Fort Worth, the test will be carried by Harris Drilling Co. to a contract depth of 3,500 ft.

DUWE & FARRIS, Wichita, Kans., are drilling No. 1 Schotmann, SW NW Section 27-17-10w, Ellsworth County, Kansas, below 3,175 ft. This firm is drilling the well in partnership with Crown Petroleum Co. The well is north of the Stumps pool. It is reported running high on the structure.

COMMERCIAL DRILLING CO., Tulsa, is preparing to drill No. 2 Anthis, in SE NE NW Section 18-18-10e, in the Kellyville area of Creek County, Oklahoma.

KIRK-GREEN-WAY, INC., and J. W. Meazel's No. 1 Boland, SE NE NW Section 28-11-3, east of Dale and northwest of Shawnee, Pottawatomie County, Oklahoma, was plugged after getting second Wilcox sand at 5,890 ft. and coring to 5,905 ft., getting full recovery of white salty sand.

CAMPBELL DRILLING CO., Tulsa, is preparing to drill No. 1 Vose, in SE cor. NE¼ Section 31-7-5e, in the St. Louis pool of Pottawatomie County, Oklahoma.

KERR-LYNN DRILLING CO. drilled No. 1 College Park, NE NW SW Section 21-13-3w, Oklahoma County, Oklahoma, south offset to No. 1 Orphanage. It was drilled to 5,719 ft., plugged back to 5,100 ft. to straighten the hole. This firm, in partnership with Indian Territory Illuminating Oil Co., has been drilling below 4,193 ft. at No. 1 Raney, SW NE SE Section 35-10-5, in the Earlsboro area of Seminole County, Oklahoma. Pipe was set at 4,146 ft.

HELMERICH & PAYNE, INC., Tulsa, have been drilling No. 2 Collins, in C W½ NE NW Section 13-17-1e, in the Coyle pool of Payne County, Oklahoma. Operators are preparing to drill cement plug. The hole bottomed at 4,810 ft. in the Viola lime, topped at 4,797 ft. and the 7-in. string was run to 4,802 ft. This company in drilling No. 1 Gray, in SW NE Section 30-18-7w, ¼ mile northeast of the Geneseo pool, in Rice County, Kansas, had the Arbuckle from 3,194 ft. to 3,207 ft., total depth. Nine hundred feet of oil was reported standing in the hole.

HARRY L. EDWARDS DRILLING Co. is preparing to make a production test of Salt Dome Oil Corp.'s No. 1 Williams, approximately 1 mile east of the South Cotton Lake field, Chambers County, Texas. Oil and gas sand was cored at 6,494-6,515 ft., the total depth, and casing was cemented.

LOFFLAND BROTHERS have spudded Selby Oil & Gas Co.'s No. 1

H. C. SMITH ROCK BITS
INSURE INCREASED SPEED AND ECONOMY

H. C. SMITH ROCK BIT

Send for Folder or see Composite Catalog

H C Smith Oil Tool Co.
GENERAL OFFICES AND PLANT
P. O. Box 431, Compton, Calif.

Mid-Continent, Gulf Coast and Eastern territory distributors:
INTERNATIONAL DERRICK & EQUIPMENT CO.

Export Representative: Val R. Wittich, Jr. 30 Rockefeller Plaza, New York City

"There is no better rope"

Standco NO-SMOKE
STANDCO BRAKE LINING
is the drillers' best friend because it makes the easiest brake known and "feeds off" evenly while drilling. It never scores brake rims. See page 2100, Composite Catalog.
STANDARD BRAKE LINING CO.

Contractors

East Texas Oil Co., a wildcat located southeast of the Humble field in Harris County, Texas. A south outpost in the North Thompson field, Fort Bend County, was abandoned for H. N. Naylor, and the rig has been moved to another location for the same operator.

GLENN McCARTHY is reported to have opened a field in Brazoria County, Texas, with the completion of his No. 1 Houston Farm Development Co., located in the Chocolate Bayou area. The hole is bottomed at 10,380 ft., and the well is said to have been completed between 8,900-9,800 ft. although no details of the completion were released.

COASTAL WELL SURVEY CO. is preparing to spud W. Stewart Boyle's No. 1 I. G. Britton, a projected 6,000-ft. wildcat located north of the Louise field in Wharton County, Texas.

FALCON SEABOARD is rigged up at Gulf Oil Corp.'s No. 2 Grandison, a wildcat located in La Fourche Parish, coastal Louisiana. The well is projected to a depth of 12,000 ft.

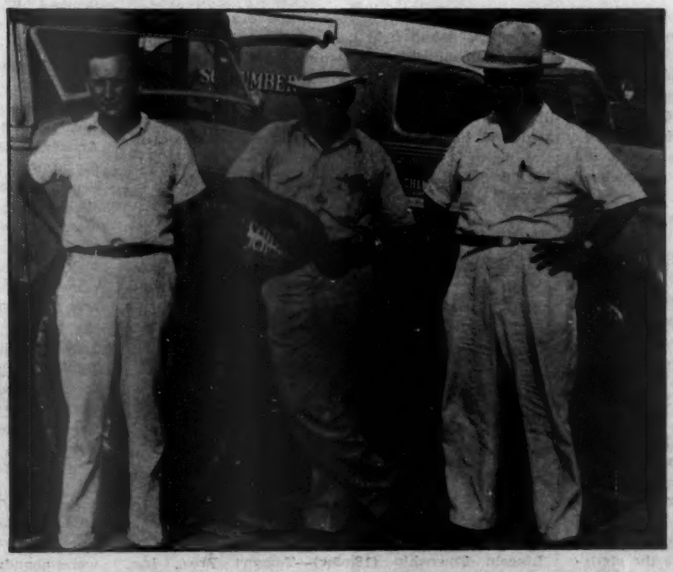
WILLIAM S. KING, El Dorado, Ark., is prepared to start work at a new Clark County wildcat, No. 1 H. Ross, S½ SW Section 3-10-21, south of Gurdon. Operators plan to carry the well 3,000 ft. In the Troy area, Nevada County, Arkansas, Benedum & Trees have staked location for No. 2 Mitchell, 330 ft. from south line and 990 ft. from the east line of Section 4-14-20.

JOE MODISETT, prominent wildcatter in South Arkansas, is drilling below 4,000 ft. in No. 2 Union Sawmill, in Section 13-18-12, Union County. This Smackover-lime test is on an 8,500-acre block in what is known as the New London area.

SID RICHARDSON has extended the Cheneyville field, Rapides Parish, Louisiana, southeastward by completion of No. 2 Weil, which flowed an estimated 10 bbl. of 36.6 gravity hourly through 11/64-in. choke.

BUNTE BROTHERS and Nat Hunter's No. 1 Louisiana Saw Mill Co., in Vernon Parish, Louisiana, is reported disappointing. It topped the Wilcox at 6,000 ft. and logged freshwater sand at 6,000-36 ft. The operators plan to drill 500 ft. into the Wilcox.

TURNER & SMITH were due to spud a new operation at No. 1 Panola Development Co., George Gallespie Survey, 1¼ mile northeast of their gas discovery in Panola County, Texas. The discovery was completed from Glen Rose lime at 4,998 ft. Holcomb & Thomasson, of Shreveport, have the drilling contract.



L. W. Fort, district engineer, and E. H. Sheridan, district superintendent, Shell Oil Co., Inc., southwestern Louisiana, and J. A. Smits, engineer, Royal Dutch-Shell, The Hague. Mr. Smits is making a tour of Shell properties studying drilling practices and equipment. The picture was snapped in the Jennings field, Acadia Parish

OSAGE HARD-SURFACING METALS
The Super Diamond substitute, universally sold and distributed throughout the world.
OSAGE METAL CO., INC.
1413 S. Blackwelder Ave., Oklahoma City, Okla.

EXTRA SUPERIOR MANILA
OILFIELD ROPE
MARINE GRADE
MARINE GRADE ROPE
Especially designed for the conditions of the oil fields. Specify EXTRA SUPERIOR MANILA
Bull Rope Cat Line
Drilling Cable
Sold by leading distributors.
TUBBS CORDAGE CO.
200 Bush Street
SAN FRANCISCO, CALIF.

ANNOUNCING

The Manual of Style for Editors, Compositors and Proofreaders of The Oil and Gas Journal.

A timely style book especially helpful to authors and those preparing papers for their professional socities, or editing and proofreading both editorial and advertising material for the oil industry.

Every oil company and individual could profit by having this 128-page booklet, size 4¼ x 6¼. Priced at but $1.00 per copy. (Canada and foreign countries $1.25). Write

BOOK DEPARTMENT
THE OIL AND GAS JOURNAL
TULSA, OKLAHOMA

REED'S 'B-R' DRILLING BIT WITH WIRE LINE RETRACTABLE CORE BARREL

HARD FORMATION HEAD
(INTERCHANGEABLE WITH SOFT FORMATION HEAD)

REED 'B-R' Drill Collar and 3-Blade Drilling Bit with Core Barrel in position

REED ROLLER BIT CO.

UNDERGROUND OVERHEAD
Get a POMONA!

IT'S the "Underground Overhead" that builds up the cost of lifting water: pulling pumps, expensive repairs, shut downs. Now—GET A POMONA! The pump with resilient, revolvable rubber bearings and pump head adjustment. These exclusive features, together with semi-open impellers that prevent sand-locking; non-reverse ratchets that eliminate-"backing-off"; open shaft drive; accessible, above-the-ground packing glands mean operating efficiency and economy. A type and size for every purpose—STOP "PULLING"—START "PUMPING". Get a Pomona!

POMONA
Water-Lubricated
TURBINE PUMPS
POMONA PUMP CO.
ST. LOUIS, MO. POMONA, CALIF.

Michigan Field Report

By
O. C. PRESSPRICH

New Wells Average Large in Initial 24-Hour Production

SAGINAW, Mich., Aug. 28.—Emergency orders to reduce production and uncertainty over market conditions failed to effect new development during the past week in Michigan oil fields. Applications for drilling permits maintained the usual pace, as did completions, which increased Michigan's potential daily output by better than 10,500 bbl.

Completions in proven areas had better than customary success, four new wells have initial flow of better than 100 bbl. an hour, several others daily initials of between 300 and 600 bbl. The week brought 19 new oil wells, two natural-gas wells, while 14 tests, including one for gas, were abandoned as dry holes.

The booming Walker Township field in Kent County continued to set the pace for the state. Except for two dry holes in Walker Township (6n-12w), all completions were commercial producers, three of them having initial production of 50 bbl. an hour each, or more. There were eight producers in the 7n-12w side of the Walker field.

The failure was the first of a series of tests in the "gyp" beds area, land owned by the U. S. Gypsum Co. The first test, in SE NW NW Section 3, was abandoned at a total depth of 1,960 ft. It was drilled by Gordon Oil Co., which got one of the big wells.

New production was almost wholly in Sections 30 and 31 of 7n-12w. The Gordon Oil Co.'s No. 1 Andrew J. Sayers, SE NW SE, and the C. E. Weller's No. 1 Frank D. McKay, C W½ SW SE, both in Section 30, being the largest. The Sayers well did 1,440 bbl. a day naturally, while the McKay rating was the same after that test was acidized. The American Drilling Co.'s No. 1 Scully-Axdorff, NW SE SE Section 30, rated 1,200 bbl. naturally. Other completions ranged from 110 to 600 bbl.

Extension of recent development in Wise Township (16n-3w), in Isabella County was indicated by two commercial completions in the North-Central Michigan area. Both tests in Section 28 of Wise Township were completed at depths of 3,705 ft. No. 1 Thomas Ramey and others, a Cities Service Oil Co. test, was acidized to 231 bbl. a day while the Rowmor Corp.'s No. 1 Grass Lake Bank rated 266 bbl.

Exploration is due to hasten its pace in Tallmadge Township, 7n-13w, Ottawa County, where tests in recent weeks have indicated either a new field or a big extension of the Walker pool. Completions last week included a commercial well and a dry hole. In Section 25 of Tallmadge, Fisher & McCall Oil & Gas, Inc., got 235 bbl. a day from No. 1 L. H. Goodale. Total depth is 1,864 ft. The dry hole, abandoned at 1,900 ft., was North American Drilling & Producing Co.'s No. 1 J. Kuiper, in Section 36.

The Redding field, 19n-6w, of Clare County, had the biggest well of the week in the state. It was Pure Oil Co.'s No. B-11 James S. Bicknell, in Section 28. Initial production was gaged at the rate of 1,728 bbl. a day, naturally. In adjoining Section 29 American Drilling Co. got a 900-bbl. producer, the fourth on the Ida B. Newcomer lease.

Allegan County's Salem field, 4n-13w, had three completions, production being at the usual rate, Wyoming Oil Corp. getting 105 bbl. a day from the No. 2 Otto Homrich in Section 1, Daily Crude Oil Co. rating the No. 4 M. Steffes in Section 2 at 150 bbl., Salem Gas & Oil Co. getting 250 bbl. a day initial from the No. 1 John Gaca in Section 15. All tests were acidized.

Dwindling production in Van Buren County was slightly checked as Clapsaddle & Harris completed No. 1 Cooley in Section 13 of Bloomingdale Township (1s-15w), for 720 bbl. a day, naturally, while the sixth Leo P. Parisian producer in Section 13, did 350 bbl. a day after acid. Other tests in Van Buren, one in Bloomingdale, two others in Columbia and one in Decatur, were abandoned as dry holes.

Incidentally Bloomingdale marked its first anniversary as an oil producing section. It was estimated that the field produced 3,000,000 bbl. of oil in the year, average recovery being estimated at 3,200 bbl. to the acre. The discovery well on the Albert Wiggins estate still is pumping at the maximum allowed under proration.

Two gas wells were included in the week's completion list. Taggart Bros. got another well in Clare's Lincoln Township, 18n-5w, the No. 13 D. W. Frackelton, C NE Section 18, rating 10,750,000 cu. ft. a day. The other gas well, good for only 250,000 cu. ft., was drilled by W. E. Ross in Section 8 of Clayton Township, 10n-4e, Arenac County. C. W. Teater abandoned a gas test in Missaukee County, Enterprise Township, 23n-5w.

Efforts to reestablish Muskegon County in production were unsuccessful as exploration tests in Norton Township, 9n-16w, and in Egleston Township, 10n-15w, were abandoned as dry holes. There were two wildcat tests abandoned in Barry County, another in Girard Township of Branch County. Another unsuccessful exploration, which operators had watched with much interest, was the test of Chapman Oil Co. and others in Midland County's Edenville Township, 16n-1w. The hole was drilled 4,078 ft. in Section 10.

The current state of the oil industry, with its shutdowns, proration extensions and price situation, failed to have any effect on the prospective future development, it was indicated, as the State Conservation Department announced that 35 new drilling permits had been issued during the week. As usual most of the franchises were for southwestern Michigan development. Five permits were for Tallmadge Township, Ottawa County, seven were for Allegan County, five for Clare, five for Van Buren, six for the Walker-Wyoming area in Kent County. Permits also were approved for wildcat drilling in Gratiot, Isabella, Kalamazoo, Mecosta and Ogemaw counties.

Following is the Michigan completions summary for the week:

Allegan County

Salem Township (4n-13w)—Completions in three sections of the Salem field had combined initial production of 505 bbl. daily. Wyoming Oil Corp. completed No. 2 Otto Homrich, SW SW SW Section 1, at 1,585 ft., acidizing it for a daily yield of 105 bbl. Daily Crude Oil Co.'s No. 4 M. Steffes, NE SW SE Section 2, was rated 150 bbl. a day after getting acid treatment, total depth 1,634 ft. No. 1 John Gaca and others, SW NW SW Section 14, completed at 1,589 ft., rated 250 bbl. a day after acid.

Arenac County

Clayton Township (20n-4e)—W. E. Ross completed a small gas well at 1,210 ft., total depth. The completion, No. 1 A. L. Buhl, C NE NE Section 8, rated 250,000 cu. ft. a day.

Barry County

Barry Township (1n-9w)—Sprenger Bros.' No. 1 Burt Letts, SE SW NE Section 23, a wildcat test, was dry and abandoned at 1,927 ft.

Johnstown Township (1n-8w)—The exploration test, No. 1 Roy Smith, SW SW SW Section 9, was abandoned as dry at 1,924 ft. by D. F. Jones, trustee.

Clare County

Lincoln Township (18n-5w)—Taggart Bros., Inc., increasing its string of natural gas wells, added another good producer when the No. 13, D. W. Frackelton, C NE Section 18, was completed for daily yield of 10,750,000 cu. ft. Depth of the well is 1,530 ft.

Redding Township (19n-6w)—American Drilling Co. got initial daily production of 912 bbl., naturally, from the No. 4 Ida B. Newcomer, N½ SE SE Section 29, which had total depth of 3,889 ft. Biggest well of the week in Michigan was the Pure Oil Co.'s No. B-11 James S. Bicknell, C S½ SW NW Section 28. The well, with total depth of 3,881 ft., rated 1,728 bbl. a day, naturally.

Branch County

Girard Township (5s-6w)—Ralph LaBlanc and A. Morency, trustees, wildcatting, gave up No. 1 Glenn Haven test, SE SW NE Section 20, when no oil showed after drilling for 1,257 ft.

Isabella County

Wise Township (16n-3w)—Two producers in Wise Township served to revive a measure of interest in Isabella County development. Both were in Section 28. Cities Service Oil Co. completed the No. 1 Thomas Ramey and others, NW SW NW, to get intial daily production of 231 bbl. after treating the test with acid. Rowmor Corp. had a little better results with the No. 1 Grass Lake Bank, NW NE SW, acidized to bring daily production to 266 bbl. Total depth of each well is 3,705 ft.

Kent County

Walker Township (6n-12w)—First of several "gyp" mine tests failed when Gordon Oil Co. abandoned as a dry hole No. 1 U. S. Gypsum Co., SE NW NW Section 3, at total depth of 1,960 ft. No. 4 A. Thomasma, SE SW NE Section 4, was a small producer, completed at 1,777 ft. Drilled for Smith Petroleum Co. and others, its intial daily output, after acid, was only 35 bbl.

Walker Township (7n-12w)—Three of the eight new completions rated 1,200 bbl. a day, or better. There were no dry holes. American Drilling Co. completed No. 1 G. B. Scully-R. Axdorff, NW SE SE Section 30, at 1,879 ft. Initial production was 100 bbl. an hour, naturally. The same company's No. 1 G. B. Scully-J. W. Giddis, SW SE SE Section 30, did 288 bbl. a day, naturally, and was completed at 1,877 ft. Production after acid treatment was 450 bbl. a day from the No. 1 William C. Droste, C S½ S½ SE NE Section 30. The well, having total depth of 1,915 ft., is a development of Fisher & McCall Oil & Gas Co., Inc. Gordon Oil Co. and others brought in the No. 1 Andrew J. Sayers and others, SE NW SE Section 30, for natural production of 120 bbl. an hour. The well depth is 1,885 ft. In C W½ SW SE Section 30, C. E. Weller completed the No. 1 Frank D. McKay, which also produced at a 120-bbl. hourly clip, but that was after the test was acidized. Total depth of the well is 1,892 ft. Gordon Oil Co. interests also had a 600-bbl. completion, bringing in the No. 1 Arentz-Kooyers, NW NW NE Section 31, and acidizing after bottoming the hole at 1,869 ft. Completed at a total depth of 1,900 ft., the Wolverine Natural Gas Corp.'s No. 1 Nellie Walsh, NW NE NE Section 31, was given acid treatment to bring daily production to 110 bbl. The same company's No. 1 Yost-Huntley, NE SW SE Section 32, rated 110 bbl. a day after acid. Total depth was 1,842½ ft.

Muskegon County

Egleston Township (10n-15w)—Two attempts to revive oil production in Muskegon County, scene of the state's first oil boom 15 years ago, failed when tests were abandoned as dry. They were Lentz & Miller, Inc., trustee's No. 1 A. E. Bolen, SE NW NE Section 19, and the Bliss Development Co.'s No. 1 C. N. Smith and others, NW NE SW Section 29. The Bolen

(Continued on Page 89)

Cedar Lake Field Assured; Shutdown Slows Field Work

By D. H. STORMONT

MIDLAND, Tex., Aug. 28.—The Cedar Lake wildcat in eastern Gaines County featured the activity in the western Texas district for another week. A new pool had been definitely assured when the week closed, the test having made several production gages. Possibility that the water level had been determined, Stanolind Oil & Gas Co.'s No. 1 J. B. Rayner, located 660 ft. out of the SW cor. Section 3, Block 30-C, P.S.L. Survey, is bottomed at 4,380 ft. for another test. The well found gas at 4,652-61 ft. and early in the past week a production gage of 60 bbl. of oil in 30 minutes was registered when the well was put on gas lift. Saturation was logged at several intervals from 4,661 ft. to 4,769 ft. where 2½-in. tubing was set. Oil tested 36.5 gravity. Bottom-hole pressure was reported at 325 lb. The crew cemented 7-in. casing at 4,448 ft. New activity is already seen for the area of the new producer. Twelve miles east and in Dawson County, Ray Albaugh commenced working out plans to deepen his old dry hole on the Hogg lands. This hole was quit at a total depth of 4,125 ft. and the operator contemplated deepening to the new 4,700-ft. horizon found in the Gaines County pool opener.

Heavy drilling campaign of the past several months in the Wasson-Denver-Bennett pool of Gaines and Yoakum counties was considerably slowed by the 15-day shutdown of Texas oil wells. Majority of the tests that have reached the casing point have been shut down while several other tests have temporarily suspended drilling at various depths. Only one completion was recorded for Yoakum County during the past week in contrast to an estimated average of 10 for the past 2 months. New test for the link area between the Wasson and the Bennett areas was staked by Honolulu Oil Corp. as its No. 2-804 Wilder, SW¼ Section 804.

South Basin Area

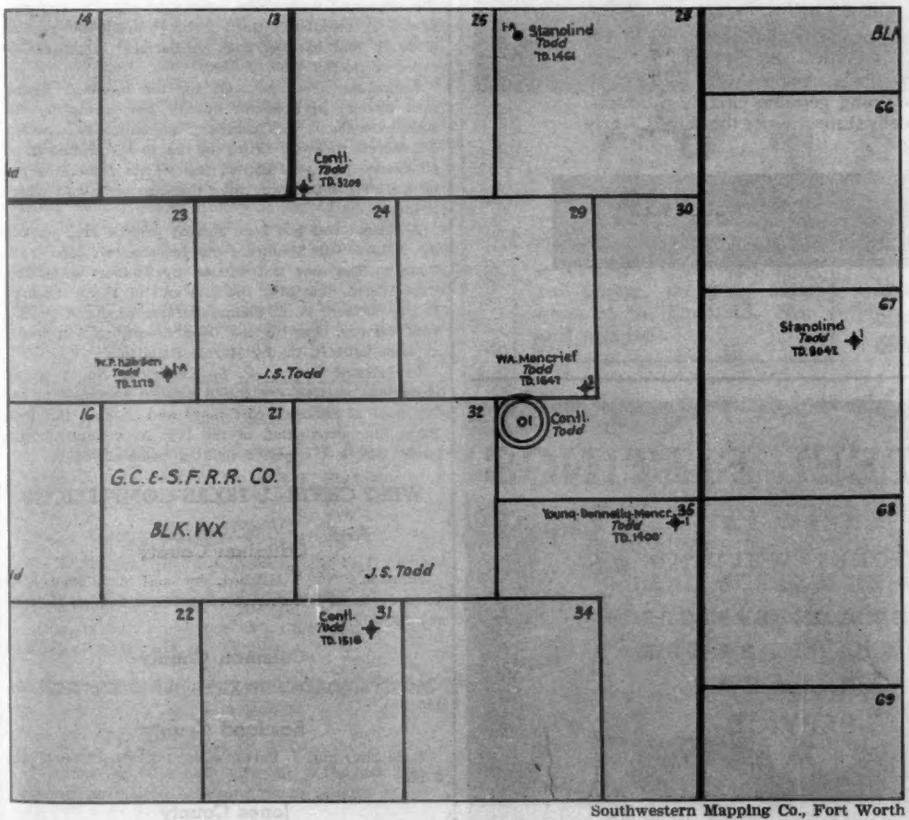
Tentative location for a projected Ordovician test on the J. S. Todd ranch in western Crockett County has been made by the Continental Oil Co., reopening efforts of major companies to tap deep oil pools south of the Big Lake and Sand Hills areas of eastern West Texas. Seven companies will be associated with the Continental in the new test, but the latter will have charge of the operation. The tentative location is 1,980 ft. from the south and west lines of Section 30, Block WX, G.C.&S.F. Survey, approximately 15 airline miles northwest of Ozona. The site is about a mile southwest of Stanolind Oil & Gas Co.'s No. 1 Todd, a deep test which was high on the Ellenburger but failed to produce. The new well will explore the Ellenburger to a projected depth of 8,500 ft.

Thorough exploration of the area surrounding W. E. Keeney's No. 1 Masterson-Lehn, new Permian lime pool opener in northern Pecos County, has been assured by the spudding of several outpost tests. The Sahara Oil Co., planning to lay a 3-in. 50-mile pipe line from producing properties in the Payton field on the Pecos River through the Lehn area, led in the new development with four tests, all within ¼ mile of the discovery well. Two tests to the north and northeast of the discovery and another directly east are under way. Richardson, Anderson, Huddleston and Rowland will start immediately on an 1,800-ft. cable-tool test, their No. 1 Masterson in Section 71. In the Masterson pool, Magnolia Petroleum Co.'s No. 1 Masterson-Lehn, south offset to the Apco Ordovician pool opener of several months past, was last reported drilling below 4,485 ft.

In Crane County and showing for a ½-mile northeast extension to the Tubbs area, Humble Oil & Refining Co.'s No. 1-C Tubbs, Section 6, Block 32, P.S.L. Survey, was shut down after drilling plug from casing and running tubing to 4,396 ft. The hole had been washed to the bottom and cleaned with oil previous to the shutin.

Ector County's North Cowden pool and Foster pool both received outpost locations during the week by Stanolind Oil & Gas Co. The company has staked its No. 1 H. Blakeney, SW¼ Section 28, Block 43, T.&P. Survey, as a ½-mile southwest outpost to the North Cowden pool. The Foster pool outpost is Stanolind's No. 30-A Cowden, 650 ft. south and 5,940 ft. west of the NE cor. Section 24, Block 43, T.&P. Survey, but in Section 22. It is the most westerly test in the southern part of the pool.

Ward County's deep Ordovician projected wildcat, Gulf Oil Corp.'s No. 5 Wristen Brothers, Section 18, Block 5, H.&T.C. Survey, ½ mile southwest of the Shipley area, was last reported reaming hole at 2,500 ft. with fluid level 500 ft. from top of the hole. The 12½-in. hole will be reamed to a depth of 2,769 ft. where casing is expected to be cemented.



Southwestern Mapping Co., Fort Worth

Continental Oil Co. has staked location for a deep 8,500-ft. Ordovician test in western Crockett County. The wildcat will explore the Ellenburger section logged high in several nearby deep dry holes

WEST TEXAS FIELD COMPLETIONS

(24-hour gages)

Ector County

In the Foster pool, Stanolind Oil & Gas Co.'s No. 22-A E. F. Cowden, 4,030-4,185 ft., 1,284 bbl. W. K. Royalty Co.'s No. 2 Smith, 4,173-4,345 ft., 4,000 bbl., old well drilled deeper. York & Harper's No. 6-D Foster, 4,158-4,308 ft., 1,516 bbl.

Gaines County

In the Wasson area, Continental Oil Co.'s No. 3-45 Moore, 4,905-5,057 ft., 817 bbl.

Pecos County

In the Tobarg pool, Cardinal Oil Co.'s No. 53 E. Tippett, 424-55 ft., 38 bbl. In the Masterson pool, Childress Realty Co. No. 11 Masterson, 1,475-90 ft., 187 bbl. In the Payton pool, Kone Production Co.'s No. 12 Pecos Valley, 1,550-1,633 ft., 425 bbl.

Upton County

Gulf Oil Corp.'s No. 5 Rogers, 2,361-64 ft., 71 bbl., old well drilled deeper. Gulf Oil Corp.'s No. 7 Rogers, 2,266-70 ft., 82 bbl., old well drilled deeper. Gulf Oil Corp.'s No. 9 Rogers, no further shows in drilling to a new total depth of 2,300 ft., 33 bbl., 2 per cent water. Gulf Oil Corp.'s No. 12 Rogers, 2,263-67 ft., 22 bbl.

Winkler County

In the Keystone pool, J. R. Sharp's No. 1 Sharp-Crume, 3,295-3,405 ft., 179 bbl., old well drilled deeper.

Yoakum County

In the Wasson-Denver-Bennett pool, Magnolia Petroleum Co.'s No. 3 Kendrick, 5,000-5,129 ft., 732 bbl.

Ward County

In the Hutchins area, Gulf Oil Corp.'s No. 124 Hutchins, 2,576-3,080 ft., 889 bbl. In the Payton pool, Sahara Oil Co.'s No. 3 Dorr, 2,040-87 ft., 65 bbl. Reese & Pitman's No. 1 Texas Cotton Industries, 1,872-1,903 ft., 203 bbl. Sinclair Prairie Oil Co.'s No. 1 Archenhold, 2,475-2,719 ft., 316 bbl., old well drilled deeper.

"A BEAR FOR WEAR"

THERE IS ONLY ONE
GRIZZLY
LINE OF OIL FIELD PRODUCTS

"GRIZZLY"
Rotary Brake Blocks
Brake Block Band Exchange
Brake Lining
Belting
Rotary Hose
Rotary Hose Couplings
Drill Pipe Protectors
Wire Line Saver
Wire Line Turn Back
Flexible Discharge Unit

All products manufactured by this company are marketed under the one registered trade name—GRIZZLY. No other trade marks or trade names of any character are utilized. This company is not affiliated in any way with any other company manufacturing or marketing oil field specialties. All Grizzly products are the finest that it is possible to produce—the result of more than twenty-five years of specialized experience in this particular field—assuring users of maximum efficiency, economy and dependability in service. To be sure of obtaining genuine Grizzly products, always specifically state or write the name Grizzly when ordering.

E. M. SMITH COMPANY
600-650 South Clarence Street
Los Angeles, California, U. S. A.

W-S FORGED STEEL FITTINGS

SCREW END
SOCKET WELDING
for
HIGH TEMPERATURE
HIGH PRESSURE
OIL and GAS
SERVICE

THE WATSON-STILLMAN CO. ROSELLE, NEW JERSEY

Sinclair Prairie Oil Co.'s No. 17 Archenhold, 2,452-2,708 ft., 351 bbl.

PANHANDLE FIELD COMPLETIONS

(24-hour gages)

Gray County

Shell Oil Co., Inc.'s No. 10 Haggard, 3,215-3,300 ft., 480 bbl.

Hutchinson County

Buck Oil Co.'s No. 2 P. Jamieson, 2,890-2,932 ft., 226 bbl. Dolomite Oil Co.'s No. 1 J. T. Thompson, 3,040-95 ft., 20 bbl. Dolomite Oil Co.'s No. 5 J. T. Thompson, 2,990-3,057 ft., 120 bbl. C. C. Keech's No. 1 J. T. Thompson, 2,915-25 ft., 20 bbl. Pennawa's No. 2 J. T. Thompson, 3,025-65 ft., 20 bbl.

Moore County

Canadian River Gas Co.'s No. 2-A Masterson, 2,048-2,297 ft., 36,559,000 cu. ft. of gas.

WEST CENTRAL TEXAS

FORT WORTH, Tex., Aug. 28.—New wildcat drilling blocks in the process of formation, together with activity in the Griffin pool of Jones County and the Ivy pool of Shackelford County, led the developments of the week in the West Central Texas district.

The shutdown failed to appreciably slow the wildcatting pace in Jones County, new tests and new drilling blocks having been reported almost daily during the past week. Hedrick Oil Co. made location southeast of Anson for No. 1 J. W. Barnes, ½ mile south of the Lewis pool and in the N½ SE Section 48, Block 15, T.&P. Survey. Hedrick Oil Co. has also secured a block of 800 acres southeast of Anson and is reported preparing to stake a location. The block is in the William C. Walker Survey No. 6 and C. Allen Survey No. 10. A block is being assembled south of Highway 15 in the western part of the county. It is south of the Ralph R. Carroll block. Slush pits have been dug east of Anson for Healy & Walters' No. 1 Warren, northeast corner of the H. H. Warren 133 acres out of the Robert Davidson and D. C. Fields surveys.

Extensions on two sides of Jones County's Griffin pool were seen as the week closed. Ungren & Frazier's No. 4 Cox-Hamilton, northwest of production, topped the saturated Palo Pinto horizon at 3,256 ft. and prepared to complete. Bert Fields topped the pay at 3,230 ft. and his No. 2 O. V. Barnard, northeast 80 acres of Section 199.

Indicating a second well for the one-well Morris pool opened in Coleman County last spring by the Anzac Oil Corp., that company has shut down its No. 5-C Morris to await lifting of the 15-day shutdown of oil fields. The well drilled the Morris sand at a top of 2,171 ft., 1 ft. lower than the discovery well which it offsets.

A second test has been started for the area opened by Nelson Oil Syndicate in extreme western Jack County. The new test will be by Taubert & McKee, Fort Worth, just over the line and in Young County, in the 300-acre H. C. Shanafelt farm of the J. Pointevant Survey. Pay in the deep discovery was found at 4,383-4,404 ft. in the Marble Falls lime.

In Haskell County P. S. Kendricks No. 1 T. G. Hendricks, Section 1, A.B.&M. Survey, northeast of the Ivy pool of Shackelford County and seeking the Palo Pinto lime production of the Ivy, Avoca and Griffin pools, was last reported drilling below 2,000 ft.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Callahan County

Johnson's No. 1 Hughes, dry and abandoned at a total depth of 886 ft. Warren's No. 2 Cozart, 1,659-61 ft., 146 bbl.

Coleman County

States Oil Corp.'s No. 3 Stockard, 3,597-3,629 ft., 115 bbl.

Eastland County

L. Slusher and J. Barton's No. 1 Lyeria, 1,440-55 ft., 5 bbl.

Jones County

Condor Petroleum Co.'s No. 23 Sayles, 1,951-69 ft., 558 bbl. Danciger Oil & Refining Co.'s No. 8 Guitar,

2,142-58 ft., 29 bbl. Fain-McGaha Oil Corp.'s No. 2 Ferguson, 1,883-92 ft., 241 bbl. B. Fields' No. 7-B Humphrey, 3,244-52 ft., 1,400 bbl. Gray & Marshall's No. 2 Jackson, 2,127-33 ft., 36 bbl. Sandy Ridge Oil Co.'s No. 10 Steffens, 1,914-15 ft., 270 bbl. Ungren & Frazier's No. 1 McCaskey, abandoned location.

Parker County

Bradshaw's No. 1 Wilson, abandoned location.

Runnels County

Hill's No. 1 Pruser, abandoned location.

Shackelford County

Lee & Key's No. 5 Lee, dry and abandoned at a total depth of 1,151 ft. Smart & Sharrock's No. 3 Blanton, 500-17 ft., 4 bbl. Tal-Vez Oil Co.'s No. 2 McKeever, 3,171-77 ft., 1,900 bbl.

Taylor County

Murray's No. 2 Evans, 1,732-54 ft., 156 bbl.

East Texas Fields

(Continued from Page 75)

the shut-in period as much as, or more than, they dropped from early May to August 15, when the closing became effective.

At the end of June, the East Texas field had 19,485 flowing wells and 6,382 either on the pump or requiring some other form of artificial lift. Some engineers have estimated that virtually the entire field will be on the pump by early 1942. Experts generally agree that the rate of pressure decline depends on oil and salt-water production. While average daily oil output in the field has been kept under 400,000 bbl. through most of the summer, the amount of salt water incident to production of the crude has been steadily increasing.

There is a strong possibility that East Texas pressures will drop faster after the shutdown than before. The underground movement of oil and water in the field is from west to east.

Houston County

Several tests in Houston County commanded attention as the week closed. Two new Woodbine tests were announced for the north part of the county, one of these is Ellis A. Hall's No. 1 J. J. Guice, J. D. Procella Survey. The operator completed a deal with the Saltmount Oil Co. for the drilling of a 6,000-ft. test in the southeast corner of the 194-acre Guice tract. The location is ¼-mile west of Cities Service Oil Co.'s No. 1 C. C. Hill, a large gas-distillate producer 2 miles west of Grapeland.

Humble Oil & Refining Co. staked location for No. 1 Josh Pouncy estate, northwest corner of a 145-acre tract in the J. G. Thompson Survey, ¾ mile north of any Humble production in the Navarro Crossing field.

Also in Houston County, Aloco Oil Co.'s No. 1 Weisinger, T. H. Barrow Survey, 7 miles southwest of Elkhart, was waiting for cement to set at a total depth of 1,000 ft.

EAST TEXAS FIELD COMPLETIONS

(1-hour gage)

Gregg County—Longview Area

Atlantic Refining Co.'s No. 9 J. E. Sheffield, 3,608-73 ft., 86 bbl.

Gregg County—Kilgore Area

C. R. Starnes' No. 34 A. Money, 3,710-11 ft., 60 bbl.

Rusk County—Joiner Area

Tide Water Associated Oil Co.'s No. 28 L. J. Pinkston, 3,753-3,814 ft., 40 bbl.

EAST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Dallas County

Mauldin Oil Co.'s No. 1 Howell, S. Layton Survey, dry and abandoned at a total depth of 2,500 ft.

Leon County

In the Navarro Crossing field extension area, Humble Oil & Refining Co.'s No. 2 Ed Swift, H. W. Sublett Survey, drill-stem test from 5,844-61 ft. showed salt water with slight show of oil. Test abandoned at total depth of 5,861 ft.

Kaufman County

Tyler & Smith's No. 1 Trinity Farms, G. Crocher Survey, dry and abandoned at a total depth of 3,540 ft.

Limestone County

W. C. McGlothlin's No. 1 W. T. Adams, P. Varella Survey, dry and abandoned at a total depth of 3,729 ft.

Eastern Fields

(Continued from Page 66)

ft. a day. T. W. Kennedy completed the test on the B. F. Winters farm in the Salt sand at 1,540 ft. and it gaged 500,000 cu. ft. a day with 2 bbl. of oil. Morely, Forman, and Gerry drilled a test on the W. P. Harper farm through the Salt sand to 1,595 ft. and it was a dry hole.

Oriskany Gas Field

One well was completed in West Virginia Oriskany gas pool during the week. In Poca district Godfrey L. Cabot, Inc., completed the second test on the J. L. McLean farm at 5,003 ft. with the Oriskany sand topped at 4,971 ft. and a final gage of 11,384,000 cu. ft. a day after shot.

Deep Tests

In Ravenswood district, Jackson County Joe Rubin and others are drilling at 1,475 ft. on the Gilbert Starr farm. In Ripley district Columbian Carbon Co. is down 1,390 ft. on the John F. Parsons farm. Everett Starcher and others have reached 4,300 ft. on the Rosa Boggess farm, and at 2,250 ft. on the Roy O. Pfost test. In Washington district the United Carbon Co. is drilling at 1,200 ft. in the test on the W. W. Riley and others farm. The United Fuel Gas Co. is down 1,327 ft. in the No. 4854 Sarah Jane Lanham.

General Power Pumps

1 well or 8 wells with Ease

G-P, T Series Unit

The G-P unit shown above is driving a gear type, central power, pumping eight wells at St. Elmo, Ill. Natural gas fuel.

This compact, sturdy unit is designed for general applications. Uses latest type of Twin Disc clutch. Ford V-8, 85 h.p., engine. Floor space, 27 in. wide, 49½ in. long.

All of the seven models of General Power conversion units are available with Ford V-8, 60 h.p., 85 h.p., 95 h.p., and Lincoln Zephyr engines. The natural gas models include flyball governor, combination carburetor, valve box, and gasometer type regulator. The nation-wide Ford repair and replacement service make these single, dual, and multiple engine units the economical power for drilling, pumping, and generating installations.

For prices and information—Write, Wire, or Phone

GENERAL POWER, INC.

QUAPAW, OKLAHOMA Phone 64

California Field Report

By
L. P. STOCKMAN

18 New Wells Completed; 1,000-bbl. Well Opens Pool

LOS ANGELES, Calif., Aug. 28.—California operators added 24,036 bbl. of new production in the past week as a result of the completion of 18 new wells and 2 recompletions. The 20 wells averaged 1,202 bbl. per day but the initial production permitted only represents a part of the true aggregate potential. The initial production maximum of 240 bbl. has been adopted in practically all California fields and is one reason why the Central Committee and Umpire Pemberton have been able to keep production rather well pegged since June when the uniform method of allotment went into effect.

Montebello

In the Montebello field Fullerton Oil Co. completed No. 1 trustee flowing 585 bbl. of clean 37.2-gravity oil and 3,500,000 cu. ft. of gas per day through a 34/64-in. bean from 7,605 ft. and No. 1 Scott-Arnold flowing 1,550 bbl. of clean 36.9-gravity oil and 3,000,000 cu. ft. of natural gas daily from 7,625 ft. No. 1 trustee was drilled down to 7,660 ft. but then plugged back to 7,605 ft. Top of the La Merced zone was logged at 7,517 ft. and top of the lower La Merced zone was cored at 7,607 ft. No. 1 Scott-Arnold was carried down to 7,657 ft. but was plugged back to 7,625 ft.

All wells completed in the Montebello field during the week were finished in the La Merced zone. Kern Oil Co., which formerly operated as St. Helens Petroleum Co. and which concern proved up the existence of deep production in the lower Pliocene and Miocene, completed No. 33 Monterey flowing 1,606 bbl. of 36.4-gravity oil and 3,265,000 cu. ft. of gas per day from 7,730 ft. Beverly-Montebello Oil Co. completed No. 2 M.B. flowing 1,040 bbl. of clean 36.7-gravity oil and 1,100,000 cu. ft. of gas through a 50/64-in. bean from 7,652 ft. This well was completed some time ago, but was recompleted after the crew had gun perforated the 4¾-in. liner. Originally, perforations were at 7,535-7,652 ft. but additional perforations have been opened by gun perforating at 7,472-90 ft., 7,495-7,515 ft. and at 7,536-50 ft. Production of the well more than doubled with the additional perforations and tubing and casing pressures increased accordingly. Top of the upper La Merced zone was logged at 7,381 ft. and top of the lower La Merced zone was found at 7,535 ft.

Union Oil Co.'s No. 5 Howard & Smith was completed flowing 875 bbl. of clean 36.8-gravity oil and 1,200,000 cu. ft. of gas per day from 7,615 ft. after the hole had been finished with a 7-in. water string landed at 7,365 ft. Standard Oil Co. completed No. 3 Braun flowing 604 bbl. of relatively clean 37.3-gravity oil and 6,500,000 cu. ft. of gas per day from 7,625 ft. through two 1½-in. beans. All wells in this field are beaned back immediately subsequent to completion due to operation of a temporary restraining order limiting production of natural gas. The California Supreme Court last week upheld a Superior Court order limiting production of gas in the Montebello field to a maximum of 23,000,000 cu. ft. when it refused a petition of La Merced Drilling Co. and others to annul the Superior Court's order. The California Supreme Court also denied a petition to stay enforcement of a temporary injunction issued by the Superior Court in Los Angeles in connection with the case. The Department of Natural Resources stepped into the Montebello field several months ago to stop the waste and blowing into the air of surplus natural gas and succeeded in establishing the fact that waste did exist and accordingly secured a temporary injunction.

Caminol Co., Ltd., completed No. 1-15 Cowan in the west end of the Montebello field flowing 1,140 bbl. of 36.8-gravity oil and 3,000,000 cu. ft. of gas per day from a depth of 7,537 ft. Both No. 1 trustee and No. 1 Scott-Arnold of Fullerton Oil Co. extended the eastern limits of production in the western end of the field and at present No. 1 trustee is the most southeasterly producing well in the extension. Derricks are going up for additional wells on both the trustee and Scott-Arnold leases.

Wilmington

Four new wells which registered a restricted aggregate initial production of 1,142 bbl. of crude oil were completed in the Wilmington field of Los Angeles Basin during the week. Long Beach Oil Development Co. completed a tideland well, No. 1-W, flowing 260 bbl. of 28.2-gravity oil per day from 3,820 ft. No. 1-W was carried down to 3,972 ft. but was later plugged back to 3,820 ft. and finished with an 11¾-in. water string landed and cemented at 2,671 ft. Brookline Oil Co.'s No. 1 Harbor was brought in flowing 280 bbl. of clean 26.2-gravity oil per day from 3,638 ft. and after the hole had been finished with an 8⅝-in. water string and 985 ft. of 5½-in. liner including perforations at 2,682-3,039 ft., 3,083-3,127 ft., 3,270-3,540 ft. and at 3,559-3,637 ft. and 3,622 ft. of 2½-in. tubing.

In the older section of the Wilmington field, Zephyr Oil Co. completed No. 21-5 Banning in the Ford zone pumping 140 bbl. of 24.5-gravity oil cutting 4 per cent from a depth of 5,700 ft. No. 6-D Long Beach Harbor Department of the Termo Co. was completed in the Terminal zone at 3,820 ft., flowing 462 bbl. of clean 26.3-gravity oil per day through an 18-/64-in. bean behind a tubing pressure of 450 lb. and a casing pressure of 550 lb. General Petroleum Corp., for the first time since its discovered the Harbor section of the Wilmington field, is not running a string of tools but is making preparation to drill on the S.P. lease in the near future. Union Pacific Railroad Co. has also reduced the scope of work and is only working on four incompleted drilling wells.

Coalinga

Two excellent flowing wells were completed in the Southeast Coalinga field of Fresno County this week when Superior Oil Co. brought in No. 2 Hight flowing 3,198 bbl. of very clean 31.6-gravity oil and 1,810,000 cu. ft. of gas daily from 8,300 ft. through a 35/64-in. bean and R. S. Lytle finished No. 33-18-F in Section 18-20-16, flowing 3,460 bbl. of 30.6-gravity oil and 1,800,000 cu. ft. of gas daily from 7,592 ft. Both represent a small part of their respective maximum flow.

The Texas Co. is about ready to spud in No. 3 Exeter in Section 6-20-16, in the northeastern end of the Southeast Coalinga field. No. 2 Exeter fee of the Texas Co., a recent completion, has the record of having pene-

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	August 19		August 12			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	575,595	633,300
Fuel oil	.....	.....	78,715	11,245	1,393,215	.....
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	127,290	18,184	.....	.....	2,277,380	2,197,978
Kerosene	.....	.....	.....	.....	194,850	257,005
Foreign exports—						
Crude oil	193,682	27,669	192,106	27,444	9,961,649	15,468,444
Fuel oil	99,339	14,191	506,933	72,419	5,891,974	5,784,646
Diesel and gas oil	143,102	20,443	332,185	47,455	4,704,469	4,031,015
Gasoline	190,544	27,221	63,372	9,053	4,893,351	4,881,600
Kerosene	19,255	2,751	.....	.....	1,250,985	667,101
Lubricants	.....	.....	.....	.....	86,172	103,127
Coastwise-domestic—						
Crude oil	48,539	6,934	210,139	30,020	8,097,807	7,859,853
Fuel oil	202,197	28,885	216,836	30,977	6,080,759	6,791,271
Diesel and gas oil	38,267	5,467	10,516	1,502	1,452,063	1,029,687
Gasoline	410,659	58,666	609,266	87,038	10,412,914	9,992,909
Kerosene	6,841	977	27,144	3,878	287,475	155,086

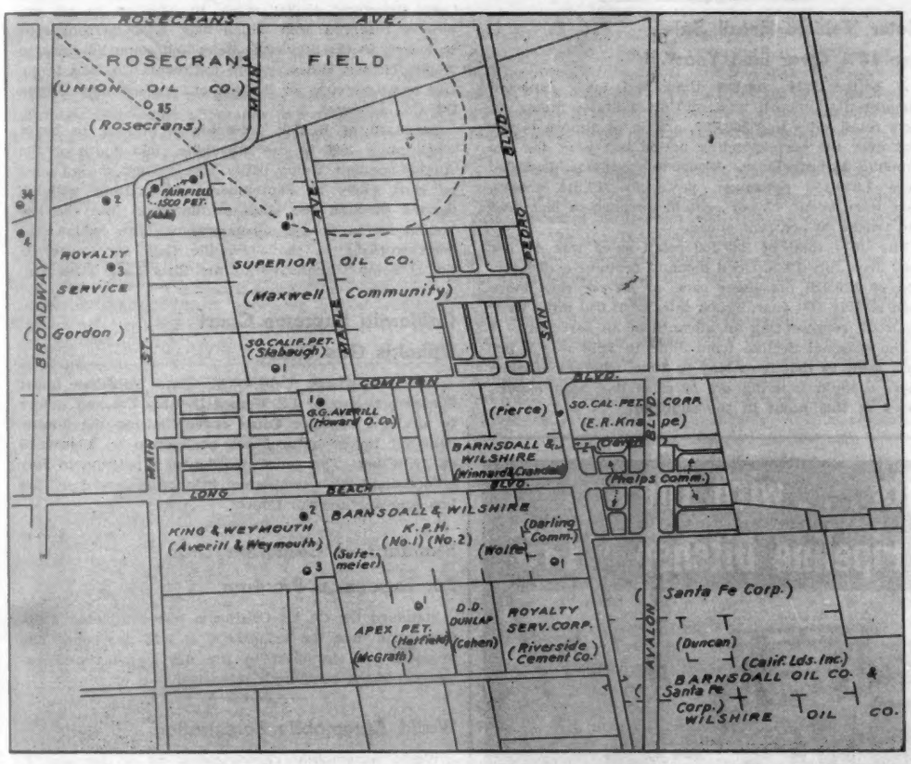
TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	124,055	
Diesel and gas oil	.....	.....	.....	.....	69,550	178,662
Gasoline	.....	.....	.....	.....	.....	9,499
Asphalt	.....	.....	.....	.....	353,166	418,700
Lubricants	.....	.....	.....	.....	19,534	16,905
Foreign exports—						
Crude oil	94,708	13,530	.....	.....	3,314,815	3,680,900
Fuel oil	79,426	11,347	.....	.....	1,868,413	1,470,402
Diesel and gas oil	.....	.....	.....	.....	1,775,449	1,929,936
Gasoline	.....	.....	.....	.....	2,060,076	3,832,021
Kerosene	.....	.....	.....	.....	384,804	478,292
Asphalt	.....	.....	.....	.....	6,919	56,258
Lubricants	13,445	1,921	.....	.....	418,389	344,412
Other finished oil	117	17	.....	.....	469	.....
Coastwise-domestic—						
Fuel oil	146,478	20,925	153,604	21,943	4,127,383	3,917,942
Diesel and gas oil	36,129	5,161	18,367	2,624	750,036	939,628
Gasoline	247,511	35,359	210,148	30,021	5,105,626	4,804,225
Kerosene	24,178	3,454	16,228	2,318	527,799	320,083

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	575,595	633,300
Fuel oil	.....	.....	78,715	11,245	1,517,270	.....
Diesel and gas oil	.....	.....	.....	.....	233,051	178,662
Gasoline	127,290	18,184	.....	.....	2,277,380	2,207,477
Kerosene	.....	.....	.....	.....	194,850	257,005
Asphalt	.....	.....	.....	.....	353,166	418,700
Lubricants	.....	.....	.....	.....	19,534	16,905
Foreign exports—						
Crude oil	288,390	41,199	192,106	27,444	13,276,464	19,149,344
Fuel oil	178,765	25,538	560,933	72,419	7,760,387	7,255,048
Diesel and gas oil	143,102	20,443	332,185	47,455	6,479,918	5,960,950
Gasoline	190,544	27,221	63,372	9,053	6,953,427	8,713,621
Kerosene	19,255	2,751	.....	.....	1,635,789	1,145,393
Asphalt	.....	.....	.....	.....	6,919	56,258
Lubricants	13,445	1,921	.....	.....	504,561	447,539
Other finished oil	117	17	.....	.....	469	.....
Coastwise-domestic—						
Crude oil	48,539	6,934	210,139	30,020	8,097,807	7,859,853
Fuel oil	348,675	49,811	370,440	52,920	10,208,142	10,708,213
Diesel and gas oil	74,396	10,628	28,883	4,126	2,202,099	1,969,315
Gasoline	658,170	94,024	819,414	117,059	15,518,540	14,797,134
Kerosene	31,019	4,431	43,372	6,196	815,274	475,169

trated the greatest thickness of Gatchell oil sand in the field to date. This well drilled through 659 ft. of rich sand to eclipse the former record of 550 ft. held by Superior Oil Co. These great thicknesses of Gatchell oil sand will result in large production per acre as the porosity, permeability and other factors are especially favorable. The Gatchell oil sand is one of the most highly saturated oil sands anywhere in the state and although the field as a whole does not yield any large volume of natural gas other factors more than make up for this apparent deficiency. Up in the area north of the Coalinga field, the Texas Co. abandoned as dry No. 1 Loescher, a wildcat, in Section 12-17-16, at 9,613 ft. Top of the Kettleman sand was logged at 6,480 ft., top of the Kreyenhagen was cored at 8,230 ft., top of the Eocene was found at 8,930 ft. and top of the Cretaceous was cored at 9,580. Two potential producers are expected in the Northeast Coalinga field before the close of the week. These two wells are No. 48-18 Webb of Bandini Petroleum Co. in Section 18-19-16, and No. 86-18 Cook of Union Oil Co. in Section 19-19-16, as both are going ahead in the pay at present. Midway between the Northeast and Southeast Coalinga fields, Wilshire Oil Co. has reached a depth of 5,500 ft. in No. 64-30-B in Section 30-19-16. This well should determine within a short time whether the Northeast and Southeast Coalinga fields are separate accumulations. About 4 miles of undrilled acreage lies between the two fields as neither the southern limits of the Northeast Coalinga nor the northern limits of the Southeast Coalinga field has yet been defined.



A new productive area has recently been discovered west and southeast of the Rosecrans field in Los Angeles Basin. Exact structural conditions are not definitely known but indications point to a probable accumulation of oil and gas against a fault having a northwest-southeast trend

Arvin

Richfield Oil Corp. extended the northern limits of production in the Arvin field of Kern County by completing No. 1 Mott in Section 9-31-29, flowing 1,280 bbl. of 30.1-gravity oil per day from 6,145 ft. Production which was gaged late in the week was still cutting 4 per cent but appeared to be cleaning up. In Section 16-31-29, Standard Oil Co. completed No. 3 Jewett flowing 2,136 bbl. of clean 29.9-gravity oil per day from 6,155 ft. and moved the crew from this well to No. 5 Jewett preparatory to an early spud. No. 3 Jewett was brought in flowing through two 96/64-in. beans but was shut in shortly after completion. Standard Oil Co. abandoned No. 1 Tupman in Section 22-31-29, dry at 7,084 ft., in gray sand. Top of the Santa Margarita was logged at 7,024 ft. and contained only a few spotted oily showings. The Texas Co. made a formation test a few days ago on No. 2 Jewett in Section 16-31-29 at 7,070-7,137 ft. and while the well did not flow, the test resulted in a recovery of 30 ft. of gassy mud, 200 ft. of oil and 140 ft. of salt water. Top of the Wharton zone was cored at 6,887 ft. and top of the upper Fruitvale carbonaceous shale was logged at 7,135 ft. The company is drilling ahead at 7,495 ft.

Belridge

In the North Belridge field of Kern County, Belridge Oil Co. completed No. 28-17 in Section 28-27-20, flowing 780 bbl. of clean 31.9-gravity oil and 3,040,000 cu. ft. of gas per day from the Wagonwheel zone with bottom of the hole at 8,670 ft. Belridge Oil Co. plugged back No. 26-39 from 8,275 ft. to 8,125 ft. and is preparing to set a whipstock and redrill. In Section 28-27-20, Belridge Oil Co. completed rig for No. 28-15.

Kern County

The most outstanding development in Kern County was a completion of No. 1 Panhandle of Western Gulf Oil Co. and the Texas Co. which flowed 1,000 bbl. of clean 50-gravity oil per day from 10,178 ft. and thus opened an oil field. This well is a joint wildcat of these two companies and is on a large lease although Ohio Oil Co. and other operators will undoubtedly also be able to develop commercial production on adjacent acreage unless prevented from doing so by a faulted condition. Production in this wildcat is coming from the Stevens zone, which has been found highly productive in other nearby fields. This zone failed to produce within the limits of the nearby Buena Vista Lake gas field as the sand was too tight, but since it is now productive in the Panhandle area Ohio Oil Co. might later drill another deep test in the Buena Vista Lake gas field as the first well might have merely represented a localized condition. Drilling operations in the new Panhandle field, which is about 18 miles southwest of Bakersfield, will undoubtedly be at a slow rate, and it may be several months before any additional data is obtained. The land on which the discovery well is located is owned in fee by Kern County Land Co. and many leases of this concern provide that new wells must be started within 90 days after each completion. Ohio Oil Co., which has a lease on acreage adjoining the discovery well, will probably start an offset in the near future but for the most part drilling on surrounding acreage will be restricted until the trend of the structure is outlined to some extent.

In the Round Mountain field of Kern County, Marcan Oil Co. has completed No. 4 in Section 12-28-28, pumping 128 bbl. of clean 15.5-gravity oil per day from a depth of 1,809 ft. after finishing the hole with a 7-in. water string landed at 1,790 ft. The outpost was somewhat below expectations and the company may therefore pull the liner and scrape the hole in an effort to stimulate production. H. A. McDonald has concluded drilling operations on No. 2 Bell in Section 12-28-28 at 1,880 ft. and is running in a liner preparatory to making a production test. Vedder Petroleum Co. was about ready to spud in No. 2 Bell in Section 12-28-28.

Los Angeles Basin

In the Dominguez field of Los Angeles Basin, Shell Oil Co. completed No. 99 Reyes flowing 1,397 bbl. of clean 29.9-gravity oil and 690,000 cu. ft. of gas per day from the Miocene at 7,840 ft. This new well which is located in the southwestern end of the Dominguez field was finished with a 5½-in. liner hung at 7,835 ft. and a 7⅝-in. water string landed at 7,140 ft. Considerable interest has been manifested in the production possibilities of the extreme western end of the Dominguez field as the Miocene appears to be rising toward that point. In order to determine this, California Western Oil Co. has started drilling about 1,500 ft. away from present production. In the Huntington Beach field of Orange County, Southwest Exploration Co. has completed No. 17 State pumping 430 bbl. of clean 24.2-gravity oil per day from the submerged tidelands with bottom of the hole at 5,440 ft. These wells are bottomed beneath the Pacific Ocean by directional drilling and this company still has considerable undeveloped acreage to drill.

Rocky Mountain Area

Production estimates for week ended August 26:

WYOMING

	Barrels
Salt Creek	•15,120
Big Muddy	1,210
Badger basin	140
Byron	4,400
Cody dome	60
Dallas Derby	420
Dewey dome	10
Dutton Creek	40
Elk basin	650
Frannie	1,470
Garland	2,880
Grass Creek	1,690
Hamilton dome	500
Hidden dome	70
Hudson	250
Iron Creek	20
La Barge	960
Lance Creek	21,660
Lost Soldier	1,670
Mahoney	280
Medicine Bow	1,710
Mule Creek	200
Oregon basin	2,970
Osage	800
Quealy dome	580
Rock River	3,030
Poison Spider	90
Teapot	30
Warm Springs	150
Wertz	2,200
Total Wyoming	65,260

MONTANA

Border	130
Cat Creek	570
Cut Bank	9,800
Dry Creek	650
Kevin-Sunburst	4,090
Pondera	920
Total Montana	16,160

COLORADO

Florence	350
Fort Collins and Wellington	300
Wilson Creek	330
Iles dome	1,950
Moffat	270
Rangely	40
Tow Creek	160
Price	540
Total Colorado	3,940

NEW MEXICO

Cooper	290
Eaves	40
Eunice	1,500
Hardy	270
Hobbs	800
Jal	50
Langlie	350
Lynch	30
Lynn	60
Mattix	340
Monument	1,630
Penrose	380
Skelly	130
South Eunice	280
South Lovington	40
Vacuum	720
Artesia-Maljamar	620
Total New Mexico	7,530
Total Rocky Mountain region	94,840

Missouri Operations

(Continued from Page 73)

NW NW NE Section 28-53-32w, Clay County, at 1,844 ft. in Arbuckle lime, Eastern Drilling Co. was due to drill 100 ft. deeper. The company still indicates it may plug back to test a gas showing at 600 ft. if no oil is found when the hole is deepened.

C. E. King was expected to spud at No. 1 Vandereau, NE SW Section 18-55-31w, Clinton County, this week. It will be his second test in the county, the No. 1 Willis, NE SE SE Section 13-55-32w, being dry at 1,886 ft.

Bob Miller was moving tools in at No. 1 Corrough, C SE SE Section 24-57-35w, east of St. Joseph, Buchanan County. He hopes to spud about September 1.

Brin & Nathan were installing new samson post and line at No. 1 Decker, C NW NW Section 1-61-38w, east of Mound City, Holt County. It was bottomed at 793 ft., in 15½-in. hole. No other test drilled in the basin to date had a hole that big at comparable depth. Hole was expected to be reduced soon. Thus far there has been no water intrusion.

Work was resumed at Wright and others' No. 1 Turner, C NW NW Section 27-59-9w, Shelby County wildcat which has been shut down for several weeks. It is bottomed at 612 ft., and water is being bailed out of the hole, preparatory to setting 10-in. casing. Hannibal business men are reported to have become financially interested in the well.

Ward McGinnis and others' No. 1 Maple, NW SE Section 3-62-26w, Harrison County, has spudded. It is to be an Arbuckle lime test. It is the first test to be started in Harrison County during the current Forest City basin activity. Location is on a block assembled by H. V. Elwell. The Skelly Oil Co., Jergens Oil Co. of Long Beach, Calif., and Lario Oil & Gas Co., Wichita, are reported to be supporting the test. Cable tools are being used.

H. V. Elwell's No. 1 Taylor, SW NW NE Section 12-62-21w, west of Milan, Sullivan County, has been abandoned in Arbuckle lime at 1,740 ft., without finding any shows of oil or gas. This was the first location to be staked in northern Missouri following the lease boom of last year, but it was not the first to start drilling, that distinction being held by the J. H. Everitt test in Holt County, recently abandoned.

C. M. Fitzwilliam, who proposes to drill in NW SE Section 7-63-27w, east of Bethany in Harrison County, has asked for extension of time in which to arrange for drilling until October 1. Location is on a block assembled by Elwell.

Ben Hall, who drilled a dry hole in Section 35-52-32w, Clay County, has moved equipment to a location 3 miles northwest of Liberty in the same county and is deepening an old gas well. It is planned to go to 1,200 ft.

W. W. Franklin has not abandoned his location in NE NE Section 20-62-22w, as was announced. Hannibal and St. Louis parties have become interested in the test, it is reported, and drilling plans are to be announced shortly.

Carter Oil Co.'s seismograph crew has departed from Maryville, Nodaway County, having finished its work. Stanolind Oil & Gas Co.'s core-drilling crew still is at Albany, Gentry County, and a Skelly Oil Co. core-drilling party is continuing exploration south of Cameron, Clinton County.

Motor Vehicle Retail Sales Are 44% Over Last Year

A better July market than had been expected brought the 7-month total of United States motor vehicle retail sales to 1,966,767, a gain of almost 44 per cent over the corresponding period last year, the Automobile Manufacturers Association reports. Included were 1,649,456 passenger cars and 317,311 trucks. Cars were about 47 per cent in advance of last year and trucks 30 per cent ahead.

The July total of 280,260 retail sales was 47 per cent over July 1938. Good demand brought a distribution of 229,220 passenger cars, or 49 per cent more than in July last year. Truck sales of 51,040 units were reported, representing an advance of 39 per cent.

The seasonal decline from June to July was 7 per cent, same as that from May to June, whereas in some years a rapid tapering off of sales has been experienced at this point in the summer.

July also represented the ninth consecutive month during which both car and truck sales have been ahead of the corresponding month of the previous year. Passenger cars were further ahead of last year than in any month except June, while trucks made a better comparative showing last month than in any period since the start of the present climb.

British Columbia Standard Takes Over Alberta Holdings

CHATHAM, Ont.—The entire lease holdings in Alberta of the California Co., subsidiary of Standard Oil Co. of California, have been taken over by Standard Oil Co. of British Columbia, which will handle their prospective development, with a view to developing supplies of crude for its refining operations on the Pacific Coast. Later, refining operations in Alberta may be undertaken if crude developments justify such a step; and meanwhile the company's marketing system will be extended in that province.

The holdings involved include 28,000 acres in the Clearwater-Ram River area; 6,500 acres on the Ross Lake structure; 45,000 acres, in addition to an extensive reserved area which may later be converted to leases, in the Steveville field; and some holdings in North Turner Valley, where California Co. had tentative arrangements for drilling out the extensive Home Oil Co. acreage.

Standard of British Columbia is moving to begin work on a test in the Steveville field south of the Anglo-Canadian Rainy Hills test. Work is expected to start early in September, and drilling will be carried through the Madison limestone into the Devonian formation. A seismographic crew which has been working in the Steveville field for California Co. is being transferred to the Ross Lake structure.

California Supreme Court Upholds Gas Order

LOS ANGELES, Calif.—The state Supreme Court denied petitions of La Merced Drilling Co. and others to annul a Superior Court order limiting the Montebello oil field's natural gas production to 23,000,000 cu. ft. a day. The court also denied a petition to stay enforcement of a temporary injunction issued by the Los Angeles Superior Court.

Standard of California Loan For Expansion Program

Standard Oil Co. of California has completed a 10-year bank loan for $25,000,000 at 2.15 per cent. The proceeds will be used in the development and expansion of the company's activities.

World Automobile Registration

World automobile registrations, as of January 1, 1939, totaled 43,819,929 units, representing an advance to a new total for the sixth consecutive year. The gain over the previous year was 741,299 units, or 1.7 per cent, according to the U. S. Department of Commerce. Of all the motor vehicles in use 68 per cent are registered in the United States, but last year's advance was in other countries, which gained 13 per cent in passenger cars and 6 per cent in trucks.

Southwest Texas Fields

(Continued from Page 70)

Webb County

North Killam field: Humble Oil & Refining Co.'s No. 8 Laurel, 2,038 ft., 26 bbl. fluid, pumping, 19 per cent water. V. G. Schimmel's No. 1-A Laurel, 3,060 ft., abandoned. Volpe field: Harvey & Henderson's No. 3 Benavides, 2,482 ft., abandoned. West Cole field: Magnolia Petroleum Co.'s No. 4 Benavides, sand 2,333-50 ft., 21 bbl. in 6 hours, pumping.

Zapata County

Comitas field: Nash & McKay's No. 18 Garza, 1,136 ft., abandoned. Escobas field: Dulup Oil Co.'s No. 41 Trevino, 1,344 ft., 159 bbl., pumping. Nordan & Morris No. 43 Gutierrez, sand 1,271-88 ft., 15 bbl., pumping.

Zavalla County

Batesville field: Wilcox Oil & Gas Co. No. 5 Gilliam, 3,995 ft., abandoned.

You Get EXTRA Profits . . . with the New "CLEVELAND" Pipeline Ditcher "MODEL 140"

EXTRA WIDE DIGGING [illegible] 18" to 30" width; [illegible] 4 in. depth.

EXTRA WIDE CRAWLER SHOES. Better traction and low ground pressure allow you to pull through the "wet spots."

EXTRA GROUND CLEARANCE. To clear stumps, etc.

EXTRA WIDE TREAD. Prevents crushing the banks of trench while digging. Permits "redigging" ditch when grade must be changed. Affords great stability on side slopes.

EXTRA STRENGTH and EXTRA DURABILITY are secured by many improvements, such as 400% stronger boom and frame.

Let the Model 140 show you the way to greater pipelining profits. Their performance for others deserves your immediate investigation.

THE CLEVELAND TRENCHER COMPANY
"Pioneer of the Small Trencher"
20100 ST. CLAIR AVE. CLEVELAND, OHIO

"CLEVELANDS" Save More — Because they Do More

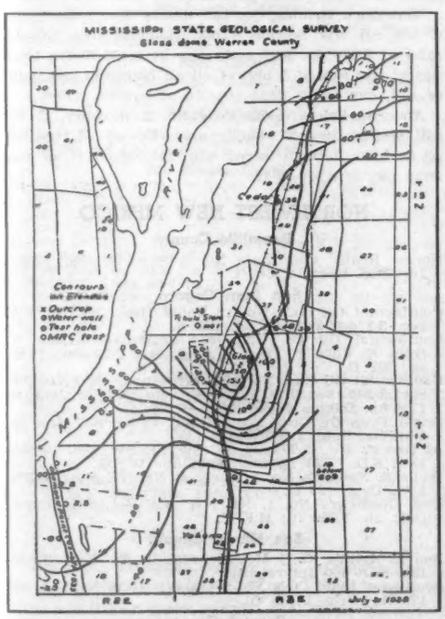
Two Mississippi Structures Are Given New Exploration

Attention of oil prospectors has been attracted to the State of Mississippi by the increasing number of oil discoveries in Illinois and Kentucky. There has been considerable leasing in the state by both the major companies and independent producers; structures in the state assume increasing importance because of the potential oil activity.

The Mississippi State Geological Survey recently reported on several structures discovered by its geologists. These include a dome at Glass, 7½ miles southwest of Vicksburg, a structure at Satartia in Yazoo County; and one at Blakely in Warren County. The work in the three areas was done by Frederick F. Mellen, field geologist, under the supervision of William C. Morse, state geologist.

The Glass Dome

The discovery at Glass, 7½ miles southwest of Vicksburg, of the Glendon limestone at an elevation of 160 ft. above sea level, or 250 ft. above its normal position, revealed the presence of a structural high of the type



favorable to oil and gas accumulation. Although this discovery in 1930 by Henry Toler led to the drilling by the United Gas Public Service Co. of the No. 1 Tchula Store, a mile northwest (Section 33-15n-3e), the well was not an adequate test, for it was stopped at 4,007 ft. in the mid-Wilcox, or above both the Midway formation and the Selma chalk.

More recent work confirms Toler's report, outlines this structure more in detail, and reveals a dome of such magnitude as to warrant thorough subsurface seismographic survey and possibly to warrant the drilling of a well to much greater depths in order to make a test of lower beds productive elsewhere.

The top of the Glendon limestone at the Y.&M.V.-Hennesseys Bayou bridge lies at 80 ft. above sea level; in the Kimberly-Wing water well at Cedars at 36 ft. above. The test holes of the present survey show the limestone a mile and a half south of Warrenton to lie at 48 ft. above sea level, a half mile east af Glass at 100 ft. above, and at Yokena at an undetermined depth below sea level.

Mississippi River Commission test holes for the Diamond Point Cutoff 1933, show the limestone a half mile above Oak Bend Landing to be 5 ft. above sea level, at the middle of the cutoff to lie 2 ft. above, and at the lower end 23 ft. below sea level.

Accordingly, the Glass structure, through an arc of 226°, has a known northward closure of 124 ft., an eastward (downdip) closure of at least 60 ft., a southward closure of more than 200 ft., and a southwest closure of 183 ft. The alluvium of the Mississippi River through the remaining 134° arc prevents the determination of the elevation of the beds toward the northwest.

Warren County North of Vicksburg

At Blakely, 7 miles northeast of Vicksburg, the Forest Hill member of the Jackson formation is exposed (northeast part, Section 15-17n-4e) higher than at any other place on the escarpment south of Eldorado. The top of the Glendon member of the Vicksburg formation is correspondingly high, and the contours of the Vicksburg quadrangle show a topographic recession in the escarpment occasioned by undercutting of the Glendon beds during formation of the alluvial vally. At Redwood 2 miles north-northeast of Blakely, and at Fort St. Peter, 1.5 miles still farther northeast, the beds are 25 and 45 ft., respectively, lower than at Blakely. At C. M. Gooch's mill, 3 miles southwest of Blakely, the beds are 30 ft. lower than at Blakely. The dip of the beds in the area is southeast and the closure in that direction is confirmed by the low position of the Glendon in numerous wells drilled in central Warren County. However, surface geology cannot reveal the structure of the beds underlying the alluvial deposits north and west of Blakely; accordingly, seismographic prospecting methods will have to be used.

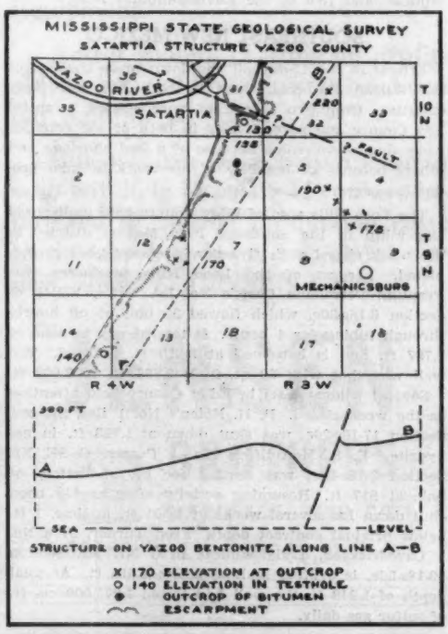
In addition to the Blakely structure, there are several noticeable undulations of the strata between Vicksburg and the Warren-Yazoo County line. One of these flexures is revealed by the Forest Hill-Mint Spring contact beneath the waterfalls both at the Bart LaHatte and at the L. C. Biedenharn (Haynes Bluff, 5 miles northeast of Blakely) properties. The contact at Fort St. Peter to the southwest and Ball Ground to the northeast is calculated to be 35 ft. and 45 ft. lower, respectively, than at the LaHatte and Biedenharn places. A part of this flexure is, no doubt, due to a northward-trending fault above the waterfall on the Bart LaHatte property (NW¼ SW¼ Section 26-18n-4e, having a displacement of 40 or 50 ft. The fault plane is obscured, but from an exposure of the Glendon limestone one walks eastward to an exposure of the down-thrown upper Byram at practically the same level. Another small flexure is at Kings Crossing, 4.5 miles southwest of Blakely.

The significance of this series of three or more flexures is unknown. They probably represent the eastward Bluff extension of a series of structural highs favorable to oil and gas accumulation beneath the thick alluvium of the Mississippi Valley or they may represent noses of a major structural high beneath the alluvium. In any event, despite the negative results of the drilling of Kistler & Stivers' No. 1 Blake at Blakely on Henry N. Toler's recommendation, this series of structures should be thoroughly tested by seismographic surveys in the adjacent alluvial plain; and perhaps test wells should be drilled to a greater depth than 5,114 ft., or through the Wilcox, Midway, and Selma chalk.

Satartia Structure, Yazoo County

Satartia, Yazoo County, lies 15 miles south-southwest of Yazoo City and 5 miles southwest of the center of the Tinsley dome, described in Mississippi Geological Survey Memorandum for the Press of April 12, 1939. In many places eastward and southward of Satartia, the hill slope gullies and the streams of the Bluff region expose the thin bentonite bed of the upper Yazoo clay. As early as November 1938, members of the W.P.A.-Mississippi Geological Survey Clay and Mineral Survey of Yazoo County suspected that the irregular elevations of the bentonite outcrops were due largely to structural conditions, although it was realized that slumping has taken place along the Bluff on an amazing scale. Subsequent to this date, the discovery of the Moodys Branch marl inlier near Tinsley confirmed the presence of the Tinsley dome as it was suggested by various outcrops of the Yazoo bentonite; still later, the finding of pieces of bitumen near the center of Section 6-9n-3w, seemed further to establish the basis for the belief that the Satartia region is disturbed geologically.

The accompanying map and sketch show the distribution of the bentonite and elevations of the ben-



tonite bed at points believed to be essentially in situ. The position, trend, and even the presence of the fault is hypothetical, but, as in the case of the arch, the illustrations are designed to present what appears from field work to be the most reasonable structural condition.

Elevations Subject to Corrections

Neither the varied elevations of the bentonite, nor the actual presence of the joint-filling bitumen, is sufficient evidence of a structure favorable to oil and gas accumulation. The extent to which slumping has developed on the Yazoo Bluff is not short of astounding, and although the key points were carefully chosen, all elevations are subject to correction. The several pieces of bitumen (the largest 2.0 by 3.0 by 0.5 inches) indicate the escape and evaporation of petroleum, but they do not indicate the source of the migration, nor the original quantity of oil. The several evidences do not appear to warrant investment unless detailed geophysical work confirms the questionable surface indications of structure.

Rocky Mountain Area

By
T. R. INGRAM

Deeper Penetration Recovers Big Production in Wyoming

DENVER, Colo., Aug. 28.—The Sinclair-Wyoming Oil Co.'s No. 11-A Wertz, on the Wertz dome, Carbon County, Wyoming, flowed 4,622 bbl. of oil in 24 hours, after drilling 251 ft. deeper from the old completion depth. The Phebus Oil Co. has a good well on the Hamilton dome, Hot Springs County, in No. 2 Government, which has 2,000 ft. of oil in the hole. The Texas Co. had an average well in the La Barge field in No. 7-K. Osage had one small pumper completed.

In Montana one of the largest wells in recent years in the Kevin-Sunburst field was completed in the Big West Oil Co.'s No. 11 Dahlquist, which flowed 1,000 bbl. through a ¼-in. choke. The Glacier Production Co.'s No. 1 Jaeger, in Cut Bank, swabbed 55 bbl. and the Par Oil Co.'s No. 2 Tribal-170 made 250 bbl. in 24 hours.

New operations included a shallow wildcat in Custer County, Colorado; one location by the Ohio Oil Co. in Lance Creek; one in Osage; one by the Italo Petroleum Corp. in the Sweetgrass district in Montana, a wildcat; and two in the Kevin-Sunburst field.

SOUTHEAST NEW MEXICO

Effects of the 15-day oil shutdown made themselves felt during the past week in both Lea and Eddy counties. Only two new tests were started in entire Lea County and several tests in both of the counties were shut down, some because of a fuel shortage and others because of inability of operators to take production gages.

The Loco Hills area of Eddy County held undisputed leadership in the Southeast New Mexico district as the week closed with five new producers being completed. Largest of the Loco Hills producers was Franklin Petroleum Corp.'s No. 1-A Yates, NW¼ of Section 6-18s-30e, which flowed 25 bbl. of oil hourly through tubing for 4 hours. It topped pay in sand at 2,787 ft. and is bottomed at 2,810 ft. in sand. The well was shot with 60 qt. from 2,765 ft. to 2,802 ft.

Several wildcat tests in Eddy County held attention as the week closed. B. H. Nolen's No. 1 Iles, SE cor. Section 17-16s-29e, was shut down at 1,723 ft. in anhydrite. E. S. McAuliffe's No. 1 Coates, C SE NE Section 3-18s-23e, was fishing for bit at bottom of hole at 917 ft. Resuming activity after having been shut down for several weeks at 1,501 ft. in lime, 1 ft. below original contract depth, Fred Turner, Jr.'s No. 1 Cave-Nickson, Eddy wildcat in C NE NE Section 30-18s-26e, is drilling in lime below 1,615 ft. At total depth of 1,348 ft. the well had tested 1,271,000 cu. ft. of sulfur gas daily.

Lovington Area

Fast becoming the most active area in Lea County, the South Lovington pool received two extension producers during the week, one on the west side and one on the east. L. H. Wentz's No. 1-A State drilled pay at 4,665-85 ft., 4,708-29 ft., 4,867-68 ft., 4,890-4,920 ft., 4,950-55 ft., and 4,975-80 ft., total depth. Tubing is being run for a test. The well is located in C SW SW Section 36-16s-36e. Extending the east part of the pool ½ mile, Coastal Development Co.'s No. 1 Caylor is swabbing out acid after treatment with 1,000 gal. It has been plugged back to 4,785 ft. to shut off water encountered in drilling to 5,005 ft. in lime. Before cementing off water, the well swabbed 75 bbl. of fluid, 15 per cent oil and the balance water, through tubing in 14 hours. Location is 2,310 ft. from the south and east lines of Section 6-17s-37e.

Eddy County

Carper Drlg. Co.'s No. 4 Robinson, SE SE SW Sec. 25-16-31. W.O.C. 3,598 ft.
G. R. Burke's No. 1 State, NE NE NW Sec. 36-16-24. Drlg. 1,125 ft.
B. H. Nolem's No. 1 Iles, SE SE SE Sec. 17-16-29. S.D. 1,723 ft.
Allen, Fair & Pope's No. 4-A State, SE SW NW Sec. 36-17-29. T.D. 3,252 ft.; pay 3,200-11 ft.; 2,000 ft. O.I.H.
Artesia Drlg. Co.'s No. 1 Hoffman, SE SE SE Sec. 14-17-24. Drlg. 265 ft.
J. R. Cones et al's No. 1 Saunders, SE SE NW Sec. 13-17-27. Drlg. 210 ft.
Danciger O. & R.'s No. 5-A Turner, C N½ NW NW Sec. 19-17-31. Drlg. 2,735 ft.
R. W. Fair's No. 1-B State, SE NW SW Sec. 36-17-29. Drlg. 2,790 ft.
Grayburg Oil Co.'s No. 1 State, NE SW SW Sec. 36-17-29. Drlg. 1,370 ft.
J. E. Hughes No. 3 Brooks, NE NW NW Sec. 19-17-28. S.D.O. 2,000 ft.
Plains Prod.'s No. 1 Daugherty, SE SE SE Sec. 11-17-27. T.D. 428 ft.; S.D.O.
Red Lake Oil Co.'s No. 1 Reid, SE SW NE Sec. 20-17-28. T.D. 1,935 ft.; F. 185 B.O.P.D.; S.I.
Repollo Oil Co.'s No. 6-A Parke, NW SW NW Sec. 22-17-30. Drlg. 3,280 ft.
Republic Prod.'s No. 3-B Robison, SE SE SE Sec. 35-17-29. Gas sd. 2,610 ft.; fsg. 3,034 ft.
J. H. Steinberger's No. 3 Hastie, NW SW SW Sec. 18-17-28. S.D. 566 ft.
R. R. Woolley's No. 1-B Woolley, SW SW SE Sec 31-17-30. T.D. 2,832 ft.; S.O. at 2,825-30 ft.; to D.D.
Brainard & Guy's No. 1 Guy, NW SW NW Sec. 10-18-29. Drlg. 1,940 ft.
Plains Prod. Co.'s No. 1 Massie, C SW SW Sec. 27-18-29. Drlg. 1,330 ft.
Barney Cockburn's No. 1 Graham-State, C NE NE Sec. 16-18-31. Drlg.
G. M. Cone's No. 1 Langford, C NW SW Sec. 9-18-29. Drlg. 2,225 ft.
Continental et al's No. 1 Travis, SE SE SE Sec. 3-18-29. T.D. 3,002 ft.; S.D.O.
L. E. Elliott No. 1 Elliott, SE SE SE Sec. 24-18-29. T.D. 3,045 ft.; S.D.
Franklin Pet. Corp.'s No. 1 Masteller, NW NW NE Sec. 7-18-30. Loc.
Farmer & Tallmadge's No. 1 Hubbell, NE SW Sec. 4-18-25. S.D. repairs 1,050 ft.
Franklin Pet. Corp.'s No. 1 Cappedge, NW SW NW Sec. 5-18-30. Tstg. 5½-in. water shutoff at 3,092 ft., T.D.
E. S. McAuliffe's No. 1 Coates, C SE NE Sec. 3-18-23. Fsg. 917 ft.
Me-Tex et al's No. 1-B Ballard, C NW NW Sec. 8-18-29. S.D. repairs 2,740 ft.
Saunders Bros.' No. 1 Travis, Sec. 17-18-29. Drlg. 2,358 ft.
Saunders Bros.' No. 1 Murdock, NW NW SW Sec. 4-18-29. T.D. 2,625 ft.; shot and C.O.; 25 B.O.P.D.
Fred Turner No. 1 Nickson, C NE NE Sec. 30-18-26. Drlg. 1,650 ft.
Underwood & Sanders' No. 2 Miller, SW NW NW Sec. 4-18-29. T.D. 2,405 ft.; W.O.C.
Underwood & Sanders' No. 3 Miller, SE SW NW Sec. 4-18-29. Drlg. 3,050 ft.
J. W. Elliott's No. 1 Cannon (O.W.D.D.), C SW SE Sec. 4-19-30. Drlg. 2,215 ft.
Trojan Oil Co.'s No. 1 Grant, SW SW NE Sec. 33-20s-25e. Drlg. 1,450 ft.

Chaves County

R. M. Baker's No. 1 Baker, NW NW NW Sec. 19-10-30. R.U.&S.D.
Caudill & French's No. 1-A Smith (O.W.D.D.), Sec. 1-4-29. Drlg. 3,380 ft.; T.D. 3,686 ft.
Comanche Drlg.'s No. 1 Campbell, NE NE NW Sec. 15-11-26. P.B. 1,271 ft.; est. 2 B.O.P.D.; S.D.O. 1,343 ft., T.D.
E. J. Fisher's No. 1 Hill, C SL S½ Sec. 8-15-25. Loc.
Nay Hightower's No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 3,445 ft.; P.B. 3,430 ft.; shot and C.O.; 100 ft. O.I.H.
New, Russell & Wood's No. 1 Sterrett, NW SE NW Sec. 29-11-25. T.D. 1,080 ft.; shut in.
Tarkenton Bros.' No. 1 Peters, SE SE NW Sec. 33-11-25. S.D.O. 1,135 ft.
Western Minerals, Inc.'s No. 1 Dow, C SW NW Sec. 27-10-30. T.D. 3,763 ft.; S.O. 3,640-50 ft.; S.D.O.

Dona Ana County

Picacho O. & G. Co.'s No. 1 Armstrong, Sec. 15-23s-1w. S.D. repairs 2,410 ft., T.D.
Slack & Mahres' No. 1 Simmons, Sec. 35-22s-5e. S.D. repairs 2,785 ft., T.D.

Luna County

O. D. Berry's No. 1 Berry, SE SE SW Sec. 33-22s-10w. Drlg. 1,000 ft.

SOUTHEAST NEW MEXICO COMPLETIONS

Eddy County

In the Loco Hills area, Franklin Petroleum Corp.'s No. 1-A Yates, NW¼ Section 6-18s-30e, flowed 25 bbl. of oil hourly through tubing for 4 hours from pay from 2,787 ft. to 2,810 ft. after 60-qt. shot.

Underwood & Sanders' No. 1 Clyde Guy, SW NW NW Section 10-18s-29e, flowed 23 bbl. of oil hourly through 2-in. tubing from pay from 2,523-61 ft. after 150-qt. shot.

Underwood & Sanders' No. 1 J. L. Langford, C SW SW Section 9-18s-29e, flowed 5 bbl. hourly through tubing from pay from 2,428-75 ft. after 120-qt. shot.

Underwood & Sanders' No. 2 J. L. Langford, NW SE SW Section 9-18s-29e, flowed 22 bbl. hourly through 2-in. tubing from pay from 2,450-89 ft. after 180-qt. shot.

Martin Yates, Jr.'s No. 1 Saunders, Loco Hills area, flowed 52 bbl. of oil daily through ¾-in. tubing choke from pay from 2,786-2,850 ft., two shots in the pay section. Location is in NE cor. Section 12-18-29.

Premier Petroleum Corp.'s No. 2-F Beeson, SW cor. Section 31-17-30, had sand at 2,770-90 ft., total depth 2,792 ft., was shot and flowed 350 bbl. of oil in 24 hours through casing. After cleaning out, it flowed 120 bbl. of oil daily through 1/68-in. choke on tubing. Gravity of the oil was 38°.

Lea County

In the South Lovington area, Magnolia Petroleum Co.'s No. 38 State-Bridges, C NE NE Section 26-17s-34e, flowed 69 bbl. in 4 hours through ½-in. tubing choke from pay from 4,295-4,700 ft. after 570-qt. shot.

Hershback Drilling Co. and others' No. 2 Burleson, C E½ SE NW Section 8-25-37, Langlie area, topped sand at 3,370 ft., had main pay at 3,466-67 ft., total depth, and flowed 5 bbl. of oil an hour the last hour of a 4-hour test.

Anderson-Prichard Oil Co.'s No. 2 Blinebry, C SE SW Section 29-23-37, Skelly area, flowed 2¾ bbl. of oil an hour through tubing with 340,000 cu. ft. of gas, from pay at 3,530-89 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc.'s No. 2 Pajarita, Sec. 32-9n-1e. Drlg. below 1,750 ft.

San Juan County

Continental Oil Co.'s No. 12 Table Mesa, NE NE SW Sec. 3-27n-17w. Drlg. sd. 495 ft.
Continental Oil Co.'s No. 95 Rattlesnake, 1,980 ft. from E, 1,320 ft. from S lines, Sec. 2-29-19w. Drlg. sh. 807 ft.
Continental Oil Co.'s No. 100 Rattlesnake, NE NW NE Sec. 2-29n-19w. T.D. 1,124 ft.; rmg. 12½-in. hole to 17½-in.; Dakota 765-900 ft.
Angel Peak Oil Co.'s No. 8 Govt., C NE SW Sec. 13-28n-11w. Drlg. 1,100 ft.
Al Greer's No. 2 Thompson, SW SE SW Sec. 10-30n-11w. S.D. 1,125 ft. for 6⅝-in. for W.S.O.
Wells & Noland's No. 1 Govt., C NE NE Sec. 21-29n-11w. Drlg. 125 ft.
Geo. Goodwin's No. 1, NE NW NW Sec. 16-30n-11w. Drlg. sh. 1,350 ft.; H.F.W.

San Miguel County

Ben E. Keith's No. 1 McCune, SW SE SW Sec. 32-16n-12e. S.D. 400 ft.; repairs.
Southwest Drlg. Co.'s No. 1 Conchas, NW NE Sec. 34-17n-21e. Drlg. 2,150 ft.

Socorro County

Joiner Oil Corp.'s No. 1 Belen Grant, SE NW Sec. 16-3n-1e. S.D. 2,965 ft.

Torrance County

Drice Co.'s No. 1 Garland, NE SE Sec. 32-7n-7e. S.D. 1,996 ft. for parts.

Valencia County

C. A. Grober et al's No. 1 Fuqua, NE NE Sec. 19-5n-3e. Drlg. below 3,000 ft.
Joiner Oil Corp.'s No. 1 San Clement, C NE SE Sec. 23-7n-7e. T.D. 5,606 ft.; may skid rig.

COLORADO

Archuleta County

Boone Dev. Co.'s No. 1 Newton, SE NW SE Sec. 18-33n-1e. T.D. 1,120 ft.; 10-in. stk.; rng. 8¼-in.

Adams County

Derby Dome O. & G. Co.'s No. 2 Baxter, C SE SW Sec. 2-3s-66w. S.D. 62 ft.

Boulder County

Continental Oil Co.'s No. 1 Borra, SE NE SW Sec. 5-1s-69w. R.U.R.
J. A. Warren's No. 3 Maxwell, NW NE NW Sec. 24-1n-17w. Drlg. below 898 ft.
Reynolds & Rohr's No. 1 Thomas, SW SW Sec. 17-1n-70w. S.D.O. 2,138 ft.; will D.D. under management of Reynolds.

Custer County

Henry Donnelly is starting a wildcat in Custer County looking for a possible extension of the South Florence pool. It is located about 4 miles to the south and a little east of a group of wells drilled in Section 5 a number of years ago, one or two of which were small producers.

Henry Donnelly's No. 1 Hughes, SE NE Sec. 26-21s-69w. Drlg. 729 ft. in 6-in. hole; (first report).

Fremont County

T. E. Maloney's No. 1, SE NW Sec. 34-19s-69w. Drlg. 1,450 ft.; (C.D.).
Waterville Oil Co.'s No. 2 Persons, CWL NE NE Sec. 17-19s-69w. Drlg. 160 ft.

Huerfano County

J. W. Tomkins & Sons' No. 2 George, SE SE SE Sec. 3-29s-69w. Drlg. 1,146 ft.
S. W. Pressey's No. 3 Campbell, NW NW NW Sec. 11-29s-69w. Drlg. 470 ft.
E. J. Dunigan's No. 1 Campbell, SW NW Sec. 2-29s-69w. Drlg. 612 ft.; (C.D.).
Ira E. Miller's No. 1 Hamilton, SE SE NW Sec. 20-29s-67w. Drlg. 1,187 ft.

Jackson County

W. N. W. Corp.'s No. 1 North Park Coal Co., NW NW Sec. 18-9n-78w. T.D. 4,100 ft.; U.R. 8¼-in.

La Plata County

Nick Splatter's No. 1-X Bryce, C SW SW Sec. 32-33n-9w. T.D. 2,352 ft.; cmtd. 8¼-in. at 2,240 ft. and 6⅝-in. at 2,352 ft. to save 1,500,000 cu. ft. of gas below 8¼-in.

Larimer County

Continental Oil Co.'s No. 1 Meyer, SW SE SW Sec. 19-8n-68w. T.D. 4,496 ft.; rdy. to start drlg.; O.W.D.D.

Las Animas County

J. H. Hulme et al's No. 1 Azar, SE SE NW Sec. 27-34s-58w. Drlg. 1,680 ft.

Moffat County

Iron Springs Pet. Co.'s No. 1 Beckett, SE SE SE Sec. 9-9n-93w. M.I.M.
Stanolind O. & G. Co.'s No. 34-SD Parkinson, SW SE SW Sec. 22-4n-92w. T.D. 3,381 ft.; P.B. to 3,339 ft.; W.O.C.
Cooperative O. & G. Co.'s No. 1 Gossard, CWL E½ E½ Sec. 29-5n-93w. Spd. and S.D. to comp. R.U.
Steamboat Springs Synd.'s No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,690 ft.; fsg. bit.
J. S. Warner's No. 1 Baker, NE NE SW Sec. 35-5n-96w. S.D. 300 ft.

Montezuma County

McElmo Oil Co.'s No. 1 West, NE NW NE Sec. 31-36n-17w. Drlg. 5,030 ft.

Park County

South Park Oil Co.'s No. 1 Lemar, NE NE SE Sec. 34-11s-75w. Drlg. fine hd. sd. 6,982 ft.

Pueblo County

Eden O. & G. Co.'s No. 1 Horse Creek Ld. & Cattle, SW SE Sec. 29-19s-64w. S.D. 2,185 ft.

Rio Blanco County

Equity Oil Co.'s No. 7 Govt., SW SW SE Sec. 3-1n-102w. T.D. 506 ft. in sd.; tstg.
Equity Oil Co.'s No. 8 Govt., Lot 12, Sec. 10-1n-102w. Loc.
Equity Oil Co.'s No. 14 McLaughlin, NW SE Sec. 32-2n-102w. Drlg. 136 ft.
Raven O. & R. Co.'s No. 25 Govt., SE NW NE Sec. 31-3n-102w. Drlg. 890 ft.
Texas Co.-California Co.'s No. 2 Unit, NW SE SW Sec. 27-3n-94w. Cg. 6,593 ft.
Buford Oil Co.'s No. 1 Govt., C SW SW Sec. 16-1n-91w. Drlg. blk. sh.&gvl. 3,780 ft.

Routt County

L. C. Craig & L. C. Moore's No. 1-X Irwin, C SW NE Sec. 33-7n-85w. T.D. 1,625 ft.; prep. to run 8¼-in. to S.O.W. in top Dakota at 1,570 ft.

WYOMING

Albany County

J. L. Gaylord-R. G. McConnell's No. 1 Fuller, NW NE NW Sec. 7-15n-75w. Drlg. 1,015 ft. in Dakota; good S.O. in Muddy sd.

Big Horn County

The Libby-Keoughan interests' No. 1 Sheetz-Government, SE NE SE Section 9-55n-96w, a test in a fault block on the southeast side of the Byron dome, had a hole full of water in the Peay sand at 3,941-82 ft. and was plugged and abandoned at 3,987 ft.

Rocky Mtn. Gas Co.'s No. 2 Davis-Syverson, SW SW NW Sec. 34-56n-97w. Drlg. 1,766 ft.
Frank S. Scott's No. 1 Robertson, SE SE SE Sec. 6-54n-93w. T.D. 620 ft.; fsg. bit.
A. L. Rankin's No. 1 Karjala-Rankin, C SW NW Sec 10-54n-94w. S.D. 847 ft.
Clifford S. Johnson's No. 1 Johnson, CEL NW NW Sec. 24-51n-93w. T.D. 752 ft. in Mowry sh.; Kimball sd. 615-18 and 622-26 ft.; sat. Oath Louie sd. 664-72 ft.; bld. 25 B.P.D., 50% oil.

Carbon County

The Sinclair-Wyoming Oil Co.'s No. 11-A Wertz, SE NW NW Section 7-26n-89w, Wertz dome, was recompleted at 6,238 ft. for 4,622 bbl. in 24 hours through the casing after deepening from 5,987 ft. Tubing will be run to 6,179 ft. and the well will be shut in. This was the second well drilled to the Tensleep on the Wertz dome and was completed in 1937 at 5,987 ft. for 410 bbl. per day. It was deepened 251 ft., and the way it responded indicates that the Tensleep will be a prolific producer in this pool. Deepening followed completion of No. 13-A for 129 bbl. per hour upon going deeper into the pay than the earlier wells.

Two gas wells for 5,000,000 and 1,500,000 cu. ft. per day completed in 1937 in Sections 29 and 32-27n-89w, Bunker Hill dome, by the Ohio Oil Co. and shut in, have been connected up with Rocky Mountain Gas Co.'s line from Mahoney dome to Rawlins and Parco through the construction of 11 miles of 6-in. and 1 mile of 8-in. pipe. The line, which is welded for its entire lenth, has been completed and put in operation.

Albert Dev. Synd.'s No. 1 Boeke, SW NW Sec. 18-25n-79w. Spdg. in the Embar; Tensleep expected at 500 ft.; will go to the Devonian.
Producers Oil Co.'s No. 1 Lake Valley, CNL Sec. 14-20n-88w. Drlg. 2,840 ft.

Converse County

New Era Fuel Co.'s No. 1 Simonson, NW NE SE Sec. 16-32n-68w. S.D. 783 ft. (C.D.); in White River.
Wyshawn Oil Co.'s No. 2 Lindley, C SW SW Sec. 35-32n-69w. T.D. 2,935 ft. in granite; will P.B.
W. W. Austin et al's No. 1 Pfister, SW NE NW Sec. 20-32n-68w. T.D. 713 ft.; cmtd. 5⅛-in. at 710 ft.; S.G. in sdy. sh. 710-13 ft.
New Era Fuel Co.'s No. 2 Gasper, CNL NW SW Sec. 25-32n-69w. Cg. 750 ft.
New Era Fuel Co.'s No. 1 Pestal, SE NE NE Sec. 32-32n-69w. S.D. 540 ft.
U. & S. Oil Synd.'s No. 1 Beaver, SE NW Sec. 29-35n-68w. Drlg. 100 ft. in 10-in. hole.
Blue Ridge Oil Co.'s No. 1 Pokesh, SW NW SE Sec. 29-32n-69w. Drlg. 305 ft.; 10-in. at 300 ft.

Fremont County

Sinclair-Wyoming Oil Co.'s No. 11, CSL NE NE Sec. 15-32n-95w. Drlg. 2,257 ft.
Pilot Oil Co.'s No. 8 Hoffman, C SW SW Sec. 22-3n-1w. Drlg. gr. sh. 950 ft.; S.O. 785-87 ft.
Consolidated Oil Properties' No. 3 Ewart, C SW SE Sec. 16-1n-1w. Drlg. 1,410 ft.
Frank Pouppirt's No. 2 Fidelity Tr., NW NW SW Sec. 27-3n-1w. T.D. 1,200 ft.; C.O. to res.

Hot Springs County

The Phebus Oil Co.'s No. 2 Government, NW SW SW Section 11-44n-98w, on the northwest side of Hamilton dome, is being completed as a good well. Total depth is 3,017 ft. and oil rose 2,200 ft. in the hole from the Embar-Tensleep at 3,001-17 ft. Rods and tubing will be run and the well tested after which it will be shut down until spring. This field is shut in during the winter. The new well is a south offset to the Italo Petroleum Corp.'s No. 1 Phebus-Government, which extended the pool 1¾ miles to the northwest when it was completed in 1937 for 400 bbl. per day after acidizing.

J. W. Bales' No. 1 Govt., CWL NW SE Sec. 21-42n-90w. Spd. to 70 ft. and S.D. for National rig; (test on Lysite Mtn. str.).
John W. Selby's No. 1 Kyne, SW NW Sec. 22-43n-92w. Spdg.

Lincoln County

H. C. Harris et al's No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. 2,018 ft.; more W. at 1,930 ft.

Natrona County

Continental Oil Co.'s No. 1 McGrath, C NW SW Sec. 15-34n-78w. Cmtd. 20-in. at 38 ft.; W.O.C.
Connelly Drlg. Co.'s No. 1 State, SW SW NW Sec. 36-36n-81w. Drlg. below 1,300 ft.
General Pet. Corp.'s No. 1 Govt., C NW SE Sec. 21-35n-77w. Cmtd. 6⅝-in. on top Lakota at 7,910 ft.; W.O.C.
Summit Oil Co.'s No. 2 Govt., NW NE NE Sec. 21-33n-80w. Drlg. 671 ft.

Niobrara County

Routine drilling was the only development in Lance Creek for the week with no completions and one new location, the latter being Ohio Oil Co.'s No. 13 Elizabeth Lamb, an inside well.

Ohio Oil Co.'s No. 13 Lamb-Acct. 1, NW SE NE Sec. 5-35n-65w. Loc.; (first report).
Continental Oil Co.'s No. 7 Rodeo-4, SW SW NE Sec. 35-36n-65w. Rng. rig.
C. L. Price's No. 2 Lamb, SE NW NW Sec. 7-35n-65w. Cmtd. 13-in. 334 ft.; W.O.C.
Argo Oil Co.'s No. 10-A Elliott, SE NW SE Sec. 5-35n-65w. Drlg. 1,117 ft.
Argo Oil Co.'s No. 7 Ford, NW SE NW Sec. 33-36n-65w. Spdg. 123 ft.
Continental Oil Co.'s No. 5 Apex-4, NE NE NW Sec. 35-36n-65w. Drlg. sh.&sd. 3,745 ft.
Continental Oil Co.'s No .2-B Schuricht, SE SW SE Sec. 6-35n-65w. T.D. 5,282 ft.; T. Leo zone 5,182 ft.; spotted sat.; 4¾-in. cmtd. 5,181 ft.
Continental Oil Co.'s No. 9-B Schuricht, NW SW SE Sec. 6-35n-65. Drlg. L.&anhy. 4,985 ft.
Continental Oil Co.'s No. 4-A Dielman, SW NE NE Sec. 7-35n-65w. Drlg. sh.&anhy. 5,044 ft.
A. B. Cobb's No. 4 Novick, SE SE SW Sec. 6-35n-65w. Drlg. 4,925 ft.
Ohio Oil Co.'s No. 3 Cash-1, SW NW SW Sec. 4-35n-65w. Drlg. 3,733 ft.
F. F. Hintze et al's No. 1 Wright-Govt., C NW SE Sec. 30-36n-63w. T.D. 4,964 ft.; cmtd. 7-in. at 4,617 ft. and S.D.
Fall River Roy. & Prod. Co.'s No. 1 Govt., CSL SE ES Sec. 35-40n-61w. Drlg. 2,060 ft.
Continental Oil Co.'s No. 10 Otto Rohlff, SW SW SE Sec. 31-36n-65w. Drlg. r.b. 4,606 ft.

Park County

Stanolind O. & G. Co.'s No. 36 Govt., SE SE NW Sec. 1-47n-100w. T.D. 1,551 ft.; cmtd. 7-in. lnr. at 1,159-1,545 ft.; will perf. and test various sds.

Platte County

Glentop Expltn. Co.'s No. 1, NE SE NE Sec.18-30n-67w. Drlg. 563 ft. in White River form.

It's Time to Find Out About JENSEN JACKS

Any threatened collapse of the oil industry's price structure stimulates interest in JENSEN Pumping Equipment.

And it should. Lifting oil profitably in spite of low markets has been our field for 20 years.

But we can only help the man who will help himself. If you are interested in cutting production costs to the absolute bone, ask about our new Model D JENSEN Units.

JENSEN

BROTHERS MANUFACTURING CO.

COFFEYVILLE, KANSAS, U. S. A.

You'd be Absurd

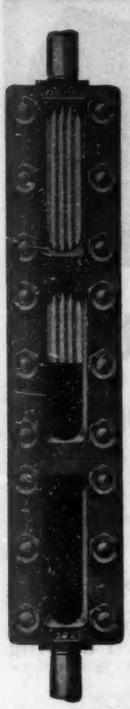
trying to get along with a car of the 1922 vintage (of course some people do, but look at them).

It would be just as funny to imagine any progressive person in the oil industry trying to keep abreast of it and floundering around without the Journal.

$6.00 keeps that much-needed fresh news, engineering and operating articles coming to you *every 7 days.*

THE OIL AND GAS JOURNAL
Circulation Dept. Tulsa, Okla.

JERGUSON



REFLEX GAGES ARE ABSOLUTELY RELIABLE

for showing liquid levels in tanks, towers, stills etc.

Ideal for gasoline, kerosene, oil—no matter what the color of the liquid.

Easy to read because . . . . .

Empty space shows

WHITE

Liquid level appears

BLACK

Dependable at high and low temperatures and pressures—that means effective protection to men and equipment.

There's a Jerguson Gage for your plant

Jerguson Gages are best By every real test

Write for catalog

JERGUSON GAGE & VALVE CO.

85 Fellsway

SOMERVILLE, MASSACHUSETTS

FOR most complete coverage of oil news in EVERY country, subscribe to The Oil and Gas Journal. Fill in this form, and mail it today with proper payment to The Oil and Gas Journal, Tulsa, Oklahoma, U.S.A.

NAME .....

ADDRESS .....

.....

(Check occupation) Producing... Refining... Natural Gasoline... Pipe Line...

RATES: Outside United States, $7.00 a year, $3.50 for 6 months. In the United States, $6.00 a year, $3.00 for 6 months.

In the ROCKY MOUNTAIN DISTRICT

CARLETON CLYMER

2065 IVANHOE ST., DENVER

represents

INFERNO

"Makers of Better Steam Equipment"

Including: "Clamp Type" Reflex Gauge; Tailor-Made "Clamp Type" Gauges; Safety Valves; Boiler Gauge Cocks; Low Pressure Blue Flame Gas Burner; Special Type Gas Burner; Safety Units; Automatic Firing Control for oil or gas; Oil Burners; Expert Repair Department for all Precision Instruments. Ask for catalog.

The INFERNO Co. . . . Shreveport, La.

Sublette County

Texas Co.'s No. 7-K, SW SW SE Section 34-27n-113w, La Barge field, was deepened from 758 ft. to 836 ft. and recompleted for 39 bbl. in 24 hours on the pump.

Texas Co.'s No. 3-E, NE SW NW Sec. 27-27n-113w. Spdg. 87 ft.
California Co.'s No. 1 Unit 1, C SW NE Sec. 14-31n-109w. T.D. 8,000 ft.; freeing stk. D.P.
Wyo. Pet. Corp.'s No. 1 Budd, C NE NE Sec. 10-29n-113w. Drlg. hd. L.&shils. at 2,800 ft.
Yellowstone Oil Co.'s No. 1 Budd, C SE SE Sec. 6-30n-112w. Drlg. 800 ft.

Sweetwater County

Mountain Fuel Supply Co.'s No. 1 Mosey, NW NW NW Sec. 18-18n-104w. R.U.R.
Wyoming-Calif. Pet. Corp.'s No. 2 Govt., CWL NW SW Sec. 24-17n-104w. R.U.C.T.
Sinclair-Wyoming Oil Co.'s No. 84-A, SW NW NW Sec. 11-26n-90w. Drlg. 1,747 ft.
Sinclair-Wyoming Oil Co.'s No. 85-A, SE SW SE Sec. 16-26n-90w. T.D. 2,040 ft.; cmtd. 5½-in. on T. Sundance 2,029 ft.; stdg.

Uinta County

Spring Valley Pet. Co.'s No. 13, CSL SE SE Sec. 22-15n-117w. R.U. to D.D. from 1,726 ft.; O.W.D.D.

Weston County

Osage had one completion in Joseph Dornacher's No. 1 Apostal, SW SE SW Section 4-46n-63w, which pumped 8 bbl. per day from sandy streaks at 210 ft., 292 ft., and 326 ft. There was one new operation.

Bucther Bros.' No. 3, SW NW SE Sec. 16-46n-63w. Drlg. 150 ft.; (first report).
Federal Oil Co.'s No. 10, CNL NE SE Sec. 15-46n-64w. Drlg. 500 ft.
Chas. Stough's No. 1, CSL NW SW Sec. 33-47n-63w. Drlg. 332 ft.
Gerald Bock's No. 3, CEL NW NW Sec. 31-47-63. Drlg. 300 ft.
Patterson Oil Co.'s No. 20, NE SE SE Sec. 17-46n-63w. T. pay 421 ft.; drlg. in.
Whedon et al's No. 1, C SW NE Sec. 21-46n-64w. Drlg. blk. gritty L. 4,000 ft.
Bruce C. Teeters' No. 1 State, SW SW SE Sec. 36-42n-61w. Drlg. 400 ft.
Dornacher & Neiman's No. 1 Neiman, NW NW NW Sec. 6-47n-64w. Drlg. 300 ft.
Lem Johnston's No. 1, NW SW Sec. 24-44n-63w. Drlg. below 3,355 ft.; (C.D.).
F. P. Dilger et al's No. 4 Ost, CNL NE NE Sec. 25-46n-64w. Cg. in Sundance below 2,300 ft.
Hunter & Satterlee's No. 1 Draper, NW NW NW Sec. 10-46n-63w. S.D. 160 ft. (C.D.); for repairs.
Kroker et al's No. 2, CNL NE NW Sec. 31-47n-63w. T.D. 375 ft.; W.O. new mch. to D.D.

MONTANA

Blaine County

Walter Drough et al's No. 1 Stam, CSL SW SE Sec. 10-31n-18e. Drlg. 1,315 ft. in Eagle sd.; S.G.

Carbon County

R. R. Tarrant's No. 2 McKay, C SE NW Sec. 1-6s-18e. T.D. 2,990 ft.; W.O. 10-in.
Alex Beaton's No. 1, CSL SE SE Sec. 23-6n-23e. Drlg. 1,600 ft. in 8¼-in. hole.
V. M. Kirk's No. 1 Robinson, SW SW NW Sec. 2-7s-21e. Drlg. 4,423 ft.
Miracle Oil Co.'s No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,381 ft.; fsg. tools at 1,600 ft.

Choteau County

Security Pet. Corp.'s No. 1 Johnson, C NE NE Sec. 23-26n-3e. T.D. 1,991 ft.; C.O. to res.

Fergus County

Emmons et al's No. 5 Stocker, SW NW SW Sec. 24-22n-18e. T.D. 960 ft.; rep. roads to res.

Glacier County

Glacier Production Co.'s No. 1 Jaeger, C NW NW Section 15-32n-5w, which marks a slight extension of the productive area on the southeastern side of the field, was completed at 2,955 ft. after plugging back from 2,968 ft. and swabbed 55 bbl. the first 24 hours from the Cut Bank sand at 2,925-53 ft. It is an east offset to the Texas Co.'s No. 1 State.

Par Oil Co.'s No. 2 Tribal-170, SW NE SW Section 7-32n-5w, swabbed 250 bbl. the first 24 hours at 2,796 ft., total depth, from the Cut Bank sand at 2,755-90 ft. Main pay was at 2,771-90 ft. The Sunburst, at 2,675-2,730 ft., had a show of oil and a little water.

A sale of leases on 1,230 acres of Blackfoot Indian land advertised for August 15 was suspended on orders from Washington, D. C., when protests were filed. The land mostly is in the southern part of the field. It is reported that the sale was cancelled when two tracts considered proven were acquired at a private sale under a provision of the Blackfeet constitution which provides that leases shall not be made to a nonmember of the tribe if a member or an Indian cooperative association is able and willing to use the land and pay a reasonable fee for it.

Texas Co.'s No. 7 Cec. 9 Unit, C SW SW Sec. 9-32n-5w. Drlg. 425 ft.
Huber-Montana Co.'s No. 2 Hinstrager, C NW SW Sec. 24-37n-5w. R.O.G.
A. B. Cobb & Co.-Texas Co.'s No. 1 Vasboe, CEL NW SW Sec. 27-37n-5w. Rmg. at 313 ft.
Texas Co.'s No. 4 Hardwick, C NW SE Sec. 17-32n-5w. Drlg. 335 ft.
Glacier Prod. Co. No. 1 Bannister, CSL NW NE Sec. 21-33n-5w. Drlg. 2,180 ft.
A. R. Pardue's No. 3 Tribal-171, NW SE SW Sec. 7-32n-5w. Cmtd. 7-in. at 2,775 ft.; W.O.C.
Glacier Prod. Co.'s No. 2 Hall, C NE SW Sec. 35-36n-6w. T.D. 2,335 ft.; fsg.
Cobo-Reagan's No. 4 Jackson, SW SW NE Sec. 5-32n-5w. Drlg. 2,810 ft.
Kistner-Watson's No. 2 Britton, SW SE SE Sec. 14-34n-6w. Drlg. 2,750 ft.; 8⅝-in. at 2,650 ft.

Liberty County

Coolidge & Coolidge's No. 1 Forseth, CWL SW NW Sec. 8-35n-4e. R.U.

Meagher County

Dan Drumheller's No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. Drlg. 1,650 ft.; 15,000 bbl. wtr. at 1,500 ft.

Teton County

R. C. Tarrant's No. 1 Hoeschen, NE SE Sec. 34-27n-5w. Drlg. 1,900 ft.; 2,700,000 cu. ft. gas in sd. in basal Colo. at 1,560-1,640 ft.

Toole County

The Italo Petroleum Corp., of California, has entered Montana and is starting its first operation, a wildcat, in the Sweetgrass area between the West Kevin and Border fields. The company has acquired 3,000 acres from W. M. Fulton on a broad nose that turns off to the north just west of the town of Sweetgrass. The fold is approximately 200 ft. higher structurally than the gas wells in North Cut Bank. A well will be drilled under a turnkey contract by Melvin Toles, who will use a spudder. Location is near C SW NW Section 30-37n-3w. The company has two producing wells on Hamilton dome in Wyoming, and production in New Mexico.

The Rocky Ridge pool in the west side of the Kevin-Sunburst field developed a big producer in the Big West Oil Co.'s No. 11 Dahlquist, NE SW SE Section 21-35n-3w, which flowed 1,000 bbl. per day through a ¼-in. choke. It probably is the largest well completed in the field for several years. It had the contact at 1,740-44 ft., and continued to 1,815 ft. where it had water. It then plugged back to 1,760 ft. and shot a show of oil with 80 qt. at 1,737-60 ft. It swabbed 32 bbl. per day after which it was acidized and responded as a flowing well.

Pfabe & Engelking's No. 12 Government, C NE NE Section 30-35n-2w, is pumping 12 to 15 bbl. daily from the Sunburst sand at 1,250-85 ft., which also is the total depth. It is a completion.

C. D. Stock's No. 5 Hagerty, SE NW SW Section 13-35n-2w, was abandoned at 1,550 ft. after plugging back from 1,600 ft. and shooting.

There were two new operations in the Kevin-Sunburst district.

Big West Oil Co.'s No. 12 Dahlquist, NW NW NE Sec. 21-35n-2w. Drlg. 610 ft.; (first report).
Coolidge & Coolidge's No. 1-D State, SW SW NE Sec. 36-36n-2w. Drlg. 550 ft.; (first report).
Italo Pet. Corp.'s No. 1 Cornett, C SW NW Sec. 30-37n-3w. Spd. and S.D. to R.U.; (first report, in Sweetgrass district).
Morton & Shaw's No. 1 Ellingson, NE NE NW Sec. 23-35n-3w. Drlg. 250 ft.
Nepstad-Montgomery-Fargher's No. 2 Haugen, SE SW SE Sec. 2-35n-3w. Drlg. 875 ft.

SEE HOW IT WORKS

—before you buy!

"The Entirely Different Boiler and Engine Treatment"

You don't have to guess how Sand-Banum will work for you. You don't have to depend upon its splendid reputation and record of acceptance in your industry. Simply prove it for yourself in your own equipment—

TRY SAND-BANUM for 30, 60 or 90 days in your own boilers and engines. If, at the end of that period, it doesn't do a better job controlling all scale and corrosion *—you pay us nothing!*

Don't forget! This pure colloidal concentrate comes in 16-oz. cans—*ready to use!* And each can safely protects a 250 Hp. boiler for a month regardless of the operating conditions or the nature of the water used! Arrange today to know the "Safe Way to Save"—

AMERICAN SAND-BANUM CO., Inc.

9 Rockefeller Plaza New York City

Mosby Oil Corp.'s No. 2 Peterson, NE NW SE Sec. 7-35n-2w. Drlg. 1,215 ft.
G. & A. Oil Co.'s No. 14 Goeddertz, NE SE SW Sec. 23-35n-3w. T.D. 890 ft.; set 8¼-in. on bttm.
Le Mac Oil Co.'s No. 1, SW SE SW Sec. 3-34n-4w. Loc.
Prevel & Shay's No. 3 Govt., C NW SW Sec. 11-35n-3w. T.D. 1,817 ft.; contact 1,796 ft., dry; break at 1,815-17 ft.; swbg. 14 B.P.D.; will test on pmp. and then acd.
Kippen O. & G. Co.'s (formerly Lewistown Synd.'s) No. 1 Solberg, SE SW NE Sec. 20-35n-3w. Drlg. 1,170 ft.
W. E. Rice Co.'s No. 4 Kearns, Lease 8, C W½ E½ SE Sec. 18-35n-2w. T.D. 1,570 ft.; rng. 6⅝-in.
C. L. Smith, Agt.'s No. 1 Govt., SW SE NW Sec. 13-35n-2w. T.D. 1,345 ft.; fsg.
G. M. Plotke's No. 3 Ward, CWL SW SW Sec. 28-35n-3w. T.D. 1,689 ft.; prep. to test.
Art Crabtree's No. 1 Thompson, NE SE NW Sec. 35-35n-2w. T.D. 1,594 ft.; P.B. to 1,483 ft.; stdg.; not tstd.
R. G. Parrant's No. 1 Holbrook, C NW NE Sec. 2-36n-3w. Drlg. 1,370 ft.; consid. gas in base Colo.; some wtr.
Fulton Pet. Co.'s No. 3 Thompson, SE NE NW Sec. 28-35n-3w. T.D. 1,825 ft.; P.B. to 1,790 ft.; acd. 1,000 gal.; no results; may acd. again.
Superior Pet. Co.'s No. 8-A Govt., CEL NW NE Sec. 12-35n-3w. Drlg. 1,720 ft.
W. M. Cassidy's No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. S.D. after D.D. into sat. Mad. L. at 2,325-58 ft.

Yellowstone County

Riverton Oil Co.'s No. 1 Fox, CEL NW NE Sec. 14-2n-23e. Res.; T.D. 1,975 ft.; U.R. 8¼-in. from 1,900 ft. to bttm.

UTAH

Box Elder County

Northern Oil Co.'s No. 1, C NE SW Sec. 17-13n-4w. Drlg. 400 ft.

Grand County

Cane Creek Oil Co.'s No. 1 Govt., NW SW Sec. 31-26n-21e. T.D. 3,180 ft.; drlg. plug.

Summit County

Longwell Pet. Co.'s No. 1, SE SW SE Sec. 35-3n-5e. Drlg. gr. sh. 3,100 ft.; 6¼-in. U.R. to 3,088 ft.

Gulf Coast Fields

(Continued from Page 69)

siderable geophysical work in this parish during the past year and tentative locations have been made for five more wells.

In the West Gueydan field, Vermilion Parish, Magnolia Petroleum Co. has cemented 7-in. casing at 7,164 ft. in No. 3 J. B. Ferguson, and a production test is scheduled to be made this week. Details of the core record were not available, but the well is reported to have logged both the 7,100 and 6,800-ft. horizons.

An attempted blowout of Atlantic Refining Co.'s No. 5 Klumpp, an east outpost well in the North Tepetate field, Acadia Parish, has prevented testing of a new sand at 9,040-50 ft. The hole is bottomed at 9,487 ft., with 5-in. casing cemented at 9,194 ft.

In the Eola field, Avoyelles Parish, J. Edward Jones' No. 1 Barroni, 1 mile northeast of production in Section 4-2s-3e, is coring for the Wilcox formation below 8,400 ft. This is an interesting well in view of the fact that it was drilled on geological information which indicates a local "high" east of the field proper. On top of the Sparta formation, the well is reported to be running higher than Gulf States Exploration Co.'s No. 1 Haas which apparently defined the east limits of the field a few weeks ago.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

(24-hour production)

Brazoria County

Hastings field: Stanolind Oil & Gas Co.'s No. 11 Autrey, perforated casing 6,045-78 ft., 677 bbl., ¼-in. choke. West Columbia field: Texas Co.'s No. 33 Abrams, top sand 5,185 ft., 496 bbl., ¼-in. choke.

Chambers County

Barbers Hill field: Texas Gulf Producing Co.'s No. 2 McLean, top sand 4,183 ft., total depth 4,230 ft., 173 bbl., pumping. Cedar Point field: Standard Oil Co. of Texas and others' No. 44 State, 6,006 ft., 118 bbl., 5 hours, ¼-in. choke.

Fort Bend County

Thompson field: Gulf Oil Corp.'s No. 7-X Gubbels, 3,209 ft., abandoned.

Galveston County

Dickinson field: J. K. Hughes' No. 5 Ecret, 8,023 ft., 438 bbl., ¼-in. choke. League City field: Phillips Petroleum Co.'s No. 1 West Production Co., perforated casing 8,690-97 ft., 255 bbl., ⅛-in. choke.

Harris County

Clear Lake field: Stanolind Oil & Gas Co.'s No. 2 Sowden, perforated casing 5,848-59 ft., 273 bbl., ¼-in. choke. Humble Oil & Refining Co.'s No. 16-C Humble-West, 5,905 ft., 120 bbl., ¼-in. choke. Fairbanks field: Amerada-Stanolind Oil & Gas Co.'s No. 9 Foley, sand 6,823-48 ft., 130 bbl., ⅛-in. choke.

Jackson County

Cordele field: Magnolia Petroleum Co.'s No. 7 Drushel, 2,725 ft., abandoned.

Liberty County

Esperson field: General Crude Oil Co.'s No. 5-B Esperson, perforated casing at intervals 7,430-7,600 ft., 858 bbl., ¼-in. choke.

Matagorda County

Bay City field: Hamman Exploration Co.'s No. 1 Richers, sand 9,141-73 ft., 264 bbl., 16/64-in. choke.

Polk County

Segno field: Gulf Oil Corp.'s No. 21 Wing, sand 8,132-42 ft., 544 bbl., ¼-in. choke.

Wharton County

Louise field: Albert Plummer's No. 1 G. F. Wharton, 5,154 ft., abandoned. Withers field: Texas Co.'s No. 13 Broussard, 5,546 ft., 108 bbl., ¼-in. choke. Texas Co.'s No. 35-B Pierce, sand 5,539-43 ft., 88 bbl., ⅛-in. choke.

Michigan Fields

(Continued from Page 78)

test was abandoned at a depth of 2,253 ft., the other down 1,751 ft.

Manistee County

Maple Grove Township (23n-14w)—Maple Grove Oil Drilling Co. abandoned the No. 1 Herman Nieckkalo, SE NW NW Section 23. The wildcat test failed to show oil through 2,180 ft. of drilling.

Midland County

Edenville Township (16n-1w)—Chapman Oil Co. and others drilled the Edenville wildcat 4,078 ft. before abandoning it as a dry hole. The failure was the No 1 Grace W. Bagley, C S½ SW SW Section 10.

Missaukee County

Enterprise Township (23n-5w)—C. W. Teater abandoned a gas test, the No. 1 Robert Currie, NE SW SW Section 29, indicating nothing through 1,051 ft. of drilling.

Ottawa County

Tallmadge Township (7n-13w)—Development to the north and west of the Kent County Walker field was marked by a success and a failure. Fisher & McCall Oil & Gas, Inc., completed the No. 1 L. H. Goodale, SE SE SE Section 25, at 1,864 ft. and acidized the test for daily production of 235 bbl., but North American Drilling & Producing Co. failed to find oil in Section 36, abandoning it at 1,900 ft. the No. 1 J. Kuiper, NE NE NW.

Van Buren County

Bangor Township (2s-16w)—The Blood & Hendershott's No. 2 Murray, NW SW SW Section 27, was a dry hole at a total depth of 1,050 ft. and was abandoned.

Columbia Township (1s-15w)—No. 1 Teal, SE NW SE Section 2, drilled by Trindel H. Ferguson, was a dry hole. It was abandoned at 1,200 ft. Two of three completions in Section 13 were rated as commercial wells. O. O. Borden brought in the No. 6 Leo P. Parisian, SE SE NW, acidizing for production at a rate of 350 bbl. a day. Rating 720 bbl. a day, naturally, the Clapsaddle & Harris No. 1 Cooley, NE NW SE, had total depth of 1,205 ft., 21½ ft. shallower than the Parisian well. The Albert E. Kopprasch trustee's No. 3 H. and R. Cooley, SW NE SE Section 13, was abandoned as a dry hole at 1,206 ft.

Decatur Township (4s-14w)—Fisher & McCall Oil & Gas, Inc., drilled for 1,021 ft., then abandoned as a dry hole the No. 1 O. Latham, NE NE SW Section 27.

"TOLEDO"

No. 1BR—1 TO 2 INCH PIPE

4 sets of dies—one set for each size—assures easy cutting and smooth, standard taper threads. 2-inch dies made from high speed steel.

No bushings. Adjustable rear guide with 3 broad-faced chuck jaws with size-marked guide bars operated by large wing-head thumb screws makes for easy, quick, accurate centering. Long life—minimum number of moving parts.

To obtain long satisfactory service purchase a "TOLEDO" No. 1BR from your local dealer. A post card brings the complete "TOLEDO" catalog.

THE TOLEDO PIPE THREADING MACHINE CO. TOLEDO, OHIO

NEW YORK OFFICE, 72 LAFAYETTE STREET

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., Aug. 26.—Pipe-line runs to Calgary refineries from the Turner Valley field in July totaled 1,081,191 bbl., compared with 898,422 bbl. in June. Imperial Oil receipts increased from 699,706 bbl. in June to 816,625 bbl. in July and British American Oil Co. receipts from 198,716 to 264,566 bbl. The July output establishes a new record high for monthly production.

As a result of the completion of several more wells, the total Turner Valley potential has been increased to 70,863 bbl. daily, with 85 out of 86 completions assigned quotas, some of them temporary. The total allowable reached 23,080 bbl., but the Conservation Board, effective July 22, cut it back to the former daily rate of 22,000 bbl., with incidental readjustment of individual quotas. In addition to the 86 crude producers, there are 105 gas-naphtha wells.

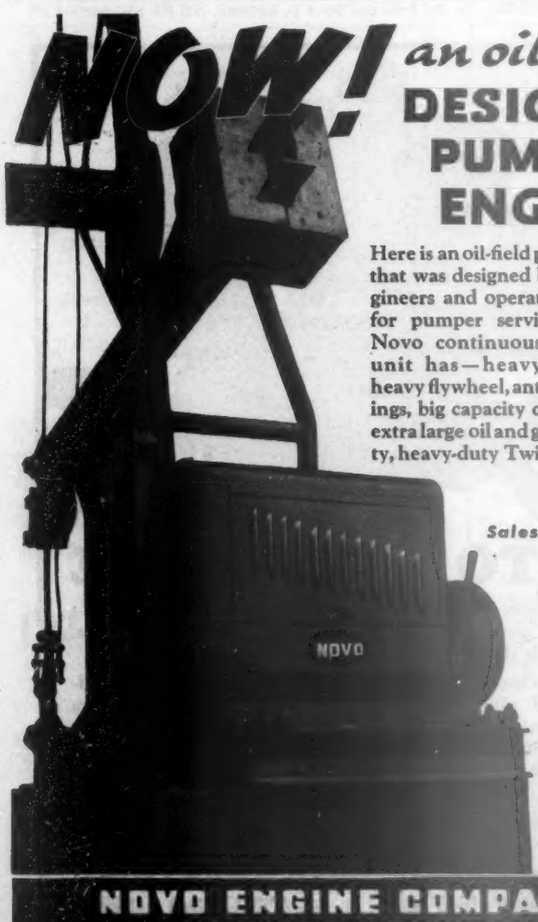
Turner Valley Completions

In Section 5-19-2w5, West Central area, Royalite Oil Co.'s No. 40, LSD 4, finished in the lime at 7,828 ft., produced 1,440 bbl. a day after reacidizing, and will be given official quota. Winalta Royalties' No. 1, LSD 15, finished at 7,253 ft., showed 770 bbl. a day through 1-in. choke, and is being given quota. Calwin Royalties' No. 1, LSD 1, finished at 7,257 ft., was reacidized with 6,500 gal. and is testing.

In Section 29-18-2w5, Royalite Oil Co.'s No. 9, finished at 7,915 ft., was given two treatments of 7,000 and 4,000 gal., and is testing.

In Section 16-18-2w5, Okalta Oil Co.'s No. 8, LSD 6, finished at 7,102 ft., developed 1,707 bbl. after reacidizing, and has been given quota of 471 bbl.

In Section 17-18-2w5, Anglo-Canadian Oil Co.'s No. 4, LSD 6, finished at 8,295 ft., developed flow of 1,543 bbl. through 1-in. choke and was given initial allowable of 549 bbl. Royalite Oil Co.'s No. 41, finished at 7,415 ft., was acidized with 464-bbl. initial quota. Extension Royalties' No. 2, LSD 11, finished below 8,244 ft., after getting the Madison limestone at 7,783 ft., and is testing. A drill-stem test of the upper porous zone of the lime previously showed around 350 bbl. a day.



NOW! an oil-field DESIGNED PUMPER ENGINE

Here is an oil-field pumper engine that was designed by oil-field engineers and operators, especially for pumper service. The new Novo continuous-duty power unit has—heavy crankshaft, heavy flywheel, anti-friction bearings, big capacity cooling system, extra large oil and gasoline capacity, heavy-duty Twin Disc Clutch.

Sales and Service By THE NATIONAL SUPPLY COMPANY

Get the detailed specifications now. Ask for Novo Bulletin No. 43 on single, 2 and 4 cylinder models.

NOVO ENGINE COMPANY
LANSING, MICHIGAN

In Section 17-18-2w5, Anglo-Canadian Oil Co.'s No. 6, LSD 3, is below 8,134 ft. after getting the Madison limestone at 7,797 ft.

Outpost Wells Get Water

West of the main field, Scottish Petroleums' No. 1, LSD 16, Section 19-18-2w5, was carried to 9,001 ft., encountering good initial crude shows in the lower porous horizon followed by salt water. This was cemented off and the hole cleaned and acidized for a production test of the upper horizon of the lime, were good indications encountered. The encountering of salt water in the lower porous horizon in this well further delimits the potential producing area to the west. Location is just north of the Highwood River, about ½ mile west of the nearest producer, and less than a mile east and a little south of Okalta Oil Co.'s No. 6, which some months ago got salt water in the lower lime around 10,025 ft.

Okalta's No. 6, LSD 3, Section 30-18-2w5, has cemented off the upper as well as the lower lime, and is planning to make perforation tests of the McDougall-Segur, Dalhousie and Home sands.

West Central Field

In Section 25-19-2w5, West Central Turner Valley, Argus Royalties' No. 1, LSD 14, is in the Blairmore formation below 6,234 ft. Location is midway between the North Turner Valley producers and the main crude area to the south, and production here would open a large new area for development, west of the old Central Turner Valley gas-naphtha field. The Argus well is logging much higher than producers farther south. The Whittal Syndicate of Vancouver and the Calgary & Edmonton Corp. of Winnipeg are associated with Anglo-Canadian Oil Co. in the test.

In Section 13-19-3w5, Sunray Petroleum Corp.'s No. 1, LSD 8, has cemented 10-in. casing at 2,560 ft. and is deepening with rotary equipment.

In Section 7-19-2w5, Anglo-Canadian Oil Co.'s No. 8, LSD 11, is in the lower Benton formation below 5,778 ft. It got the cardium sandstone marker at 5,140 ft., indicating a rise in structure to the north from East Crest Oil Co.'s No. 4 and Anglo-Canadian's No. 1.

In Section 5-19-2w5, Royalite Oil Co.'s No. 45, LSD 14, is below 613 ft. Vanpeg Royalties' No. 1, LSD 9, is rigging.

Several new tests are being started in the West Central area. A half mile north of Sunray's No. 1, Anglo-Canadian Oil Co. has located Arrow's No. 1 in LSD 16, Section 13-19-3w5. In Section 6-19-2w5, Kamalta Syndicate's No. 1 has been spotted in LSD 1. In the same section, East Crest Oil Co. has located No. 5 in LSD 9, north of No. 4 producer, and No. 6 in LSD 16, ½ mile farther north.

West Side Drilling

In Section 32-18-2w5, Vantage Oils' No. 1, LSD 12, standing in the Belly River formation at 1,700 ft., is cementing casing preparatory to deepening. Royalite Oil Co.'s No. 42, LSD 4, is in the Blairmore formation below 7,102 ft., after getting the grit beds at 6,550 ft.

In Section 29-18-2w5, Royal Canadian Oil Co.'s No. 3, LSD 12, is in the Blairmore formation below 7,858 ft. after getting the Home sand at 7,808 ft. Command Oils' No. 2, LSD 11, is in the Belly River formation below 2,947 ft.

In Section 17-18-2w5, Royalite Oil Co.'s No. 46, LSD 2, is in the Bearpaw formation below 996 ft. In Section 16-18-2w5, Okalta Oil Co.'s No. 7, LSD 3, is below 4,225 ft.

In Section 31-18-2w5, west of the main field, Anglo-Canadian Oil Co.'s No. 7, LSD 9, is below 1,103 ft.

Far South Tests

In Section 8-18-2w5, Northwest-Hudson's Bay Co.'s No. 2, LSD 9, is below 1,709 ft.

In Section 5-18-2w5, Brown Oil Corp.'s No. 6, LSD 15, is temporarily shut down at 4,517 ft. The test entered the Benton formation around 2,609 ft. but returned to the Belly River at 4,480 ft. and is still in that formation. It will probably resume shortly.

North Turner Valley

In North Turner Valley, Royalite Oil Oil Co.'s No. 43, LSD 2, Section 22-20-3w5, is in the lower Benton formation below 5,454 ft.

In Section 28-20-3w5, Home Oil Co.'s No. 4, LSD 9, is below 2,697 ft. Home's No. 3, LSD 1, Section 33-20-3w5, is below 1,822 ft.

In the Waite Valley area, National Petroleum Corp.'s No. 3, LSD 4, Section 25-20-4w5, is in the lower Benton formation below 2,480 ft.

On the Whiskey Creek structure, Mar Jon Oil Co.'s No. 5, LSD 1, Section 5-22-4w5, is below 138 ft.

Pouce Coupe Test

On the Pouce Coupe structure, in the northern foothills west of Peace River, Benedum & Trees' No. 1 Guardian, Section 7-80-12w6, is fishing for lost drill pipe at 4,318 ft. The well, started originally by the Guardian Oil Co., was taken over early in the summer by Benedum & Trees and deepened from 2,460 ft. At the present depth it is close to the potential producing horizon, expected around 4,500 ft. to 4,700 ft. Location is east and north of the town of Pouce Coupe, and is reached only after crossing and recrossing the Alberta-British Columbia boundary, the potential producing area extending west into British Columbia. John E. Morrow of Pittsburgh, Pa., is on the ground for the completion of the well, with R. L. Story in charge of the drilling.

Clearwater Naphtha Show

On the Clearwater structure, Altoba's No. 1, Section 31-34-8w5, bottoming at 2,450 ft., is still testing production. At this depth it got a large wet gas flow estimated at 7,000,000 cu. ft. a day with potential naphtha recovery of ¾ gal. per 1,000 cu. ft. Separators have been moved to location and definite production test will be made as soon as some water, believed to be coming from upper horizons, can be shut off. While the potential production is from the Devonian limestone, the well is somewhat similar to those encountered in the early days of the Turner Valley field.

Tests in the Foothills

On the Brazeau structure in the northern foothills west of Edmonton, Home Oil Co.'s No. 1, LSD 16, Section 7-43-17w5, is standing cemented in the Blairmore formation at 6,480 ft.

On the Grease Creek structure, Grease Creek-Northwest Co.'s No. 1, LSD 2, Section 13-29-7w5, is rigging rotary to deepen from 3,850 ft.

On the Kootenay dome, west of Calgary, Roxana Petroleum's No. 1, Section 8-24-7w5, is below 4,120 ft., more than 1,015 ft. in the Devonian limestone, and approaching the geological depth at which Moose Oils' No. 2 got its light crude production.

On the Jumping Pound structure, Brown Consolidated No. 1, LSD 3, Section 36-24-5w5, is below 4,312 ft.

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
Hogan Pet., No. 1-A Zabala, Casmalia, S. Barbara	33- 9-34	4,040	sd. sh. drlg.
Cole, F. E., No. 19 S.M., Santa Maria, Santa Barbara	29-10-34	5,351	sd. sh. drlg.
Petrol Corp., No. 5-21 Magenheimer, Gato Ridge, S.B.	9- 8-32	3,195	hd. sh. drlg.
Richfield Oil Corp., No. 2 Marcos, Sisquoc, S. Barb.	29- 6-29	3,600	dry; abd.
Cornet Oil, No. 1 Crown, Ojai, Ventura	17- 4-21	2,298	swabbing
St. Louis Oil, No. 1 Williamson, Sespe, Ventura	1- 4-20	2,050	sd. sh. drlg.
Section 20 Oil, No. 21 Sespe, Ventura	20- 5-19	3,770	sd. sh. drlg.
Renard Oil Corp., No. 1, Sespe, Ventura	6- 4-19	180	sd. sh. drlg.
Speik Oil, No. 2 Hill, Sespe, Ventura	33- 5-19	3,966	cleaning out
Galveston Oil, No. 1 Basola, Bardsdale, Ventura	5- 3-19	3,139	pumps off
K. C. Oil Co. No. 1 Marr, Santa Susana, Ventura	32- 3-17	104	sd. sh. drlg.
Bolsa Chica Oil, No. 5 Snow, Piru, Ventura	4- 4-18	1,786	sd. sh. drlg.
Continental Oil, No. 12 Grubb, San Miguelito, Vent.	24- 3-24	2,581	sd. sh. drlg.
C. C. M. Oil, No. 5 W.O.G., Padre Canyon, Ventura	23- 3-24	1,068	sd. sh. drlg.
Tide Water A. O., No. 40 V.L.W., Ventura Ave., Vent.	25- 3-23	10,670	cleaning out
Tide Water A. O., No. 42 V.L.W., Ventura Ave., Vent.	23- 3-23	5,998	sd. sh. drlg.
Tide Water A. O., No. 44 V.L.W., Ventura Ave., Vent.	23- 3-23	2,870	sd. sh. drlg.
Tide Water A. O., No. 15 McGonigle, Vent. Ave., Ven.	23- 3-23	6,871	sd. sh. drlg.
Tide Water A. O., No. 16 McGonigle, Vent. Ave., Ven.	23- 3-23	2,283	sd. sh. drlg.
Tide Water A. O., No. 121 Lloyd, Ventura Ave., Vent.	23- 3-23	5,495	sd. sh. drlg.
Tide Water A. O., No. 123 Lloyd, Ventura Ave., Vent.	23- 3-23	9,065	cleaning out
Shell Oil, No. 101 Taylor, Ventura Avenue, Ventura	29- 3-23	6,950	O.S. drlg.
Shell Oil, No. 102 Taylor, Ventura Avenue, Ventura	29- 3-23	2,174	sd. sh. drlg.
Shell Oil, No. 34 Edison, Ventura Avenue, Ventura	21- 3-23	7,096	sd. sh. drlg.
General Pet. Corp., No. 16 Barnard, Vent. Ave., Vent.	28- 3-23	7,093	sd. sh. drlg.
Cal. Alliance Pet., No. 1 Hartman, Vent. Ave., Vent.	22- 3-23	2,098	cleaning out
Brit. Amer. Pet., No. 8 Hartman, Vent. Ave., Vent.	21- 3-23	7,991	sd. sh. drlg.
Lloyd Corp., No. 3 Dabney, Ventura Ave., Ventura	23- 3-23	6,750	sd. sh. drlg.
Lloyd Corp., No. 4 Dabney, Ventura Ave., Ventura	23- 3-23	4,551	sd. sh. drlg.
Belridge Oil, No. 28-17, North Belridge, Kern	28-27-20	8,670	flow 780 b.d.
Belridge Oil, No. 26-39, North Belridge, Kern	26-27-20	8,275	will redrill
Tide Water A. O., No. 24, North Belridge, Kern	21-27-20	4,364	sd. sh. drlg.
O'Reily, Frances, No. 2 Seale, Edison, Kern	5-30-29	898	sd. sh. drlg.
Petrex, Inc., No. 2 Metro, Edison, Kern	6-30-29	2,595	deepening
Marcan Oil, No. 4 Kelley, Round Mountain, Kern	12-28-28	1,809	pmp. 128 b.d.
McDonald, H. A., No. 2 Bell, Round Mountain, Kern	12-28-28	1,880	O.S. drlg.
Vedder, D. G., No. 7 Bell, Round Mountain, Kern	12-28-28	1,865	pmp. 370 b.d.
Vedder Pet., No. 2 Bell, Round Mountain, Kern	12-28-28	102	sd. sh. drlg.
Mayes, A. S., No. 1 Coffee, Round Mountain, Kern	6-28-29	1,950	idle
Kern Valley Drlg., No. 1 Bender, Round Mtn., Kern	4-29-29	1,490	sd. sh. drlg.
Hast Oil, No. 3 Kern, Kern River, Kern	34-28-28	452	pmp. 5 b.d.
Morrison, C. S., No. 14 Hobson, Kern River, Kern	2-29-28	405	deepening
Dick, W. T., No. 2 Kern, Kern River, Kern	34-28-28	494	sd. sh. drlg.
Berryman, F. J., No. 1 Kern, Kern River, Kern	27-28-28	465	may deepen
D. B. K., No. 7 Kern, Kern River, Kern	34-28-28	318	sd. sh. drlg.
D. B. K., No. 8 Kern, Kern River, Kern	34-28-28	432	P.B. 420
Sunset Oil, No. 4 Bowles, Mount Poso, Kern	21-26-28	1,594	sd. sh. drlg.
Hill & Associates, No. 1 West, Mount Poso, Kern	35-26-28	762	sd. sh. drlg.
Dilamar Oil, No. 3 Quinn, Jasmin, Kern	12-25-27	2,902	rig to pmp.
Hogan Pet., No. 4 Peters, Mountain View, Kern	5-31-29	5,070	sd. sh. drlg.
Texas, No. 2 Jewett, Arvin, Kern	16-31-29	7,495	sd. sh. drlg.
Standard Oil, No. 3 Jewett, Arvin, Kern	16-31-29	6,156	flow 2,125 b.d.
Standard Oil, No. 1 Tupman, Arvin, Kern	22-31-29	7,090	dry; abd.
Richfield Oil Corp., No. 1 Mott, Arvin, Kern	9-31-29	6,154	O.S. drlg.
Superior Oil, No. 1 Cattani, Arvin, Kern	15-31-29	6,152	flow 1,560 b.d.
Western Gulf Oil, No. 43-B KCL, Fruitvale, Kern	22-29-27	103	sd. sh. drlg.
Western Gulf Oil, No. 2 Ansolobehere, Fruit., Kern	14-29-27	2,879	dry; abd.
Meridian Pet. Corp., No. 2 Deep Test, Fruitvale, Kn.	23-29-27	7,550	hd. sd. drlg.
Getty, George F., Inc., No. 1- Jannsen, Wasco, Kern	7-27-24	13,097	sd. sh. drlg.
Union Oil, No. 4-23 Bowerbank, Goose Lake, Kern	23-29-24	245	sd. sh. drlg.
Superior Oil, No. 1 Bruner, Rio Bravo, Kern	27-28-25	9,198	sd. sh. drlg.
Standard Oil, No. 1 Ross, Greeley, Kern	20-29-26	10,540	hd. sh. drlg.
Standard Oil, No. 11-18, KCL, Greeley, Kern	18-29-26	11,360	O.S. drlg.
Standard Oil, No. 11-19, KCL, Greeley, Kern	18-29-26	11,490	O.S. drlg.
Standard Oil, No. 11-20, KCL, Greeley, Kern	18-29-26	3,374	cmt. 1,550
Standard Oil, No. 12-5, KCL, NW Greeley, Kern	7-29-26	7,274	sd. sh. drlg.
General Pet. Corp., No. 1 Sullivan, NE Greeley, Kn.	12-29-26	8,760	hd. sd. drlg.
Continental Oil, No. 2-D, KCL, Bellevue, Kern	14-30-26	12,540	hd. sh. drlg.
Shell Oil, No. 78-20-B, KCL, Ten Section, Kern	20-30-26	8,049	O.S. drlg.
Tide Water A. O., No. 24-7-E, KCL, Strand, Kern	7-30-26	8,330	O.S. drlg.
Shell-Ohio, No. 84-12-A, KCL, Strand, Kern	12-30-25	7,582	sd. sh. drlg.
Ohio Oil, No. 14-E, KCL, Canal, Kern	14-30-25	6,870	sd. sh. drlg.
Shell Oil, No. 4-14-A, KCL, Canal, Kern	14-30-25	8,304	flow 1,464 b.d.
Shell Oil, No. 32-14-A, KCL, Canal, Kern	14-30-25	4,637	sd. sh. drlg.
Richfield Oil Corp., No. 12-33-A, KCL, Tupman, Kern	33-30-25	8,850	O.S. drlg.
Standard Oil, No. 21-1, KCL, Tupman, Kern	19-30-25	9,977	P.B. 9,880
Richfield Oil Corp., No. 14-3-B, KCL, Cole's Levee, Kn.	3-31-25	9,565	cleaning out
Richfield Oil Corp., No. 67-4-B, KCL, Cole's Levee, Kn.	4-31-25	5,880	sd. sh. drlg.
Standard Oil, No. 20-2, KCL, Cole's Levee, Kern	9-31-25	3,267	sd. sh. drlg.
Ohio Oil, No. 45-11, KCL, Cole's Levee, Kern	11-31-25	5,371	sd. sh. drlg.
Tide Water A. O., No. 81, KCL, Cole's Levee, Kern	14-31-25	8,750	sd. sh. drlg.
Union Oil, No. 52-11, KCL, Cole's Levee, Kern	11-31-25	9,947	flow 1,080 b.d.
Union Oil, No. 58-11, KCL, Cole's Levee, Kern	11-31-25	130	sd. sh. drlg.
Gibson Oil, No. 6 O'Brien, Midway-Sunset, Kern	6-11-23	3,275	P.B. 3,030
Bihl, J. U., No. 2-A Sunset, Midway-Sunset, Kern	7-11-23	2,302	cleaning out
Oxford Oil, No. 5 Monticello, Midway-Sunset, Kern	27-31-22	1,515	sd. sh. drlg.
Baker & Sonne, No. 1 Leyse, Midway-Sunset, Kern	20-32-23	161	sd. sh. drlg.
Quality Oil, No. 6 W.P., Midway-Sunset, Kern	27-32-23	1,993	gr. sd. drlg.
Texas, No. 34 Sunset, Midway-Sunset, Kern	32-32-24	3,268	O.S. drlg.
General Pet. Corp., No. 1 B.V.A., Midway-Sunset, Kn.	1-31-24	8,280	sd. sh. drlg.
National Oil, No. 33 Sunset, Midway-Sunset, Kern	35-32-23	2,271	br. sh. drlg.
Western Gulf Oil Corp., No. 1 Panhandle, B.V.L., Kn.	3-32-26	10,178	O.S. drlg.
Richfield Oil Corp., No. 1 KCL, Wheeler Ridge, Kern	28-11-20	11,004	reaming
Continental Oil, No. 1-F, KCL, San Emidio, Kern	5-10-21	7,750	hd. sh. drlg.
Bannow, L. E., No. 1 Irwin, San Emidio, Kern	15-10-23	2,040	cleaning out
Shell Oil, No. 52-2-13-A, KCL, San Emidio, Kern	13-11-22	10,270	sd. sh. drlg.
French, R. C., No. 1 Royal, San Emidio, Kern	5-10-21	604	cleaning out
Petrol Corp., No. 33-5 Reserve, Tejon, Kern	33-11-19	9,193	idle
Superior Oil Co. No. 1 S.P.L., Turk, Fresno	15-18-16	11,450	hd. sh. drlg.
Texas, No. 1 Loescher, Burrell, Fresno	12-17-16	9,613	dry; abd.
Richfield Oil Corp., No. 1 Gulf, Cantua, Fresno	4-17-15	7,851	sd. sh. drlg.
Italo Pet. Corp., No. 5 Penn, West Coalinga, Fresno	1-20-14	1,220	cleaning out
Wilcox, J. F., No. 7 Coalinga, West Coalinga, Fresno	11-20-14	109	sd. sh. drlg.
Union Oil, No. 86-18 Cook, NE Coalinga, Fresno	18-19-16	7,987	O.S. drlg.
Bandini Pet., No. 48-18 Webb, NE Coalinga, Fresno	18-19-16	8,093	O.S. Drlg.
Standard Oil, No. 73-19-B fee, NE Coalinga, Fresno	19-19-16	7,693	sd. sh. drlg.
Amerada Pet., No. 5-17 S.P.L., NE Coalinga, Fresno	17-19-16	4,894	sd. sh. drlg.
Wilshire Annex Oil, No. 1 Kearns, Cent. Coal., Fresno	30-19-16	5,270	sd. sh. drlg.
Lytle, R. S., Agt., No. 86-7-F, SE Coalinga, Fresno	7-20-16	7,393	sd. sh. drlg.
Lytle, R. S., Agt., No. 7-18-F, SE Coalinga, Fresno	18-20-16	7,231	O.S. drlg.
Lytle, R. S., Agt., No. 33-18-F, SE Coalinga, Fresno	18-20-16	7,275	O.S. drlg.
Texas, No. 3 Exeter fee, SE Coalinga, Fresno	6-20-16	287	sd. sh. drlg.
Standard Oil, No. 62-13-C fee, SE Coalinga, Fresno	13-20-15	3,384	sd. sh. drlg.
Standard Oil, No. 86-13-C fee, SE Coalinga, Fresno	13-20-15	5,892	sd. sh. drlg.
Superior Oil, No. 2 Hight, SE Coalinga, Fresno	8-20-16	8,300	flow 3,198 b.d.
Superior Oil, No. 3 Cagle, SE Coalinga, Fresno	6-20-16	4,271	sd. sh. drlg.
Parkford, E. A., No. 1 Valley, SE Coalinga, Fresno	24-20-15	6,160	sd. sh. drlg.
K. N. D. A., No. 61-34-J, Kettleman North, Fresno	34-21-17	8,900	flow 1,200 b.d.
K. N. D. A., No. 4-18-Q, Kettleman North, Kings	18-22-18	8,295	cleaning out
K. N. D. A., No. 54-20-Q, Kettleman North, Kings	29-22-18	6,890	br. sh. drlg.
K. N. D. A., No. 4-22-Q, Kettleman North, Kings	22-22-18	7,695	cleaning out
K. N. D. A., No. 47-22-Q, Kettleman North, Kings	22-22-18	6,881	br. sh. drlg.
K. N. D. A., No. 25-26-Q, Kettleman North, Kings	26-22-18	5,750	br. sh. drlg.
Standard Oil, No. 2-19-J, Kettleman North, Fresno	19-21-17	9,096	sd. sh. drlg.
Standard Oil, No. 27-19-J, Kettleman North, Fresno	19-21-17	8,840	fish D.P.
Standard Oil, No. 27-7-Q, Kettleman North, Kings	7-22-18	6,186	br. sh. drlg.
Standard Oil, No. 43-7-Q, Kettleman North, Kings	7-22-18	3,494	sd. sh. drlg.
Standard Oil, No. 63-17-Q, Kettleman North, Kings	17-22-18	7,153	O.S. drlg.
Standard Oil, No. 85-17-Q, Kettleman North, Kings	17-22-18	7,545	sd. sh. drlg.
Standard Oil, No. 87-17-Q, Kettleman North, Kings	17-22-18	7,930	flow 2,685 b.d.
Standard Oil, No. 63-21-Q, Kettleman North, Kings	21-22-18	8,190	completing
Standard Oil, No. 85-21-Q, Kettleman North, Kings	21-22-18	3,161	sd. sh. drlg.
Standard Oil, No. 61-27-Q, Kettleman North, Kings	27-22-18	6,990	br. sh. drlg.
Graphic Oil, No. 1 Taylor, Dudley Ridge, Kings	34-23-20	2,070	sd. sh. drlg.
Newton, S. M., No. 1 Stafford, Panorama, San L. Obis.	18-31-21	3,880	sd. sh. drlg.
Cal. Expl. Co., No. 1 Irons, Cuyama, San L. Obispo	19-10-24	2,415	sd. sh. drlg.
Texas, No. 3 Eureka, Eureka, Humboldt	21- 3- 1	3,900	cmt. 3,900
Silver Creek Oil, No. 1 Los Pinos, San Benito	11-17-11	2,325	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd., cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem
D.S.T., drill-stem test
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.I., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well, location, and county—	S.T.R.	Depth	Status—
Bren Oil, No. 1 Sepulveda, Torrance, Los Angeles	30- 4-13	5,372	sd. sh. drig.
O'Donnell, J. E., No. 73 Lomita, Torrance, L. Angeles	30- 4-13	4,760	sd. sh. drig.
Union Oil, No. 12 Carson, Dominguez, Los Angeles	33- 3-13	4,572	sd. sh. drig.
Shell Oil, No. 99 Reyes, Dominguez, Los Angeles	33- 3-13	7,840	completing
Union Oil, No. 34 Rosecrans, Rosecrans, Los Angeles	19- 3-13	7,550	sd. sh. drig.
Barnsdall Oil, No. 1 Darling, Rosecrans, Los Angeles	20- 3-13	6,382	sd. sh. drig.
King & Weymouth, No. 3 Averill, Rosecrans, L. A.	20- 3-13	2,994	sd. sh. drig.
South Cal. Pet. Corp., No. 1 Slabaugh, Rosecrans, L.A.	19- 3-13	6,890	fish D.P.
Basin Oil, No. 1 Beloil, Potrero, Los Angeles	28- 2-14	5,450	redrlg. 5,132
Texas, No. 1 Extension, Playa Del Rey, Los Angeles	34- 2-15	6,672	schist, drlg.
Tide Water A. O., No. 11 Fernando, Aliso Cany., L.A.	27- 3-16	1,990	sd. sd. drig.
Redwood Oil, No. 1-A Mitchell, Mint Canyon, L. A.	22- 4-15	130	sd. sh. drig.
Barnsdall Oil, No. 6 R.S.F., Newhall, Los Angeles	27- 4-17	6,550	O.S. drlg.
Brookline Oil, No. 1 Harbor, Wilmington, Los Ang.	4- 5-13	3,638	flow 281 b.d.
Dumm Bros. Pet., No. 2 Harbor, Wilmington, L. A.	35- 4-13	3,095	sd. sh. drig.
Dolley, C. F., No. 1 Harbor, Wilmington, Los Angeles	35- 4-13	5,140	deepening
Gremac Oil, No. 2 Harbor, Wilmington, Los Angeles	4- 5-13	2,687	sd. sh. drig.
Hancock Oil, No. 23-A Harbor, Wilmington, L. A.	2- 5-13	4,055	testing
Long Beach Dev., No. 9-Y Harbor, Wilmington, L. A.	2- 5-13	3,983	flow 460 b.d.
Long Beach Dev., No. 1-W Harbor, Wilmington, L.A.	3- 5-13	3,972	P.B. 3,820
Long Beach Dev., No. 2-W Harbor, Wilmington, L.A.	3- 5-13	3,900	O.S. drlg.
L. A. Basin Drlg., No. 1 Harbor, Wilmington, L. A.	33- 4-13	3,386	sd. sh. drig.
Royalty Service Corp., No. 3 Packard, Wilmg., L. A.	35- 4-13	3,615	will deepen
Royalty Service Corp., No. 15-7-1 Harbor, Wil., L. A.	35- 4-13	3,650	redrlg. 3,605
Royalty Service Corp., No. 1-B Santa Fe, Wil., L. A.	35- 4-13	5,360	sd. sh. drig.
Signal O. & G., No. 5 S.P., Wilmington, Los Angeles	3- 5-13	4,163	O.S. drlg.
Signal O. & G., No. 4 U.P., Wilmington, Los Angeles	3- 5-13	4,050	completing
Termo, No. 6-D, L.B.H.D., Wilmington, Los Angeles	3- 5-13	3,920	flow 460 b.d.
Union Pacific R. R., No. 113, Wilmington, Los Ang.	34- 4-13	3,701	O.S. drlg.
Union Pacific R. R., No. 114, Wilmington, Los Ang.	10- 5-13	3,945	P.B. 3,750
Union Pacific R. R., No. 115, Wilmington, Los Ang.	3- 5-13	3,625	O.S. drlg.
Union Pacific R. R., No. 116, Wilmington, Los Ang.	3- 5-13	2,812	sd. sh. drig.
Wilton Oil, No. 9 Harbor, Wilmington, Los Angeles	32- 4-13	5,737	sd. sh. drig.
Zephyr Oil, No. 21-5 Banning, Wilmington, Los Ang.	33- 4-13	5,700	pmp. 140 b.d.
Kern Oil, No. 24 Monterey, Montebello, Los Angeles	2- 2-12	6,398	sd. sh. drig.
Kern Oil, No. 32 Monterey, Montebello, Los Angeles	2- 2-12	6,775	cmtd. 6,695
Kern Oil, No. 33 Monterey, Montebello, Los Angeles	2- 2-12	7,730	cmtd. 7,626
Kern Oil, No. 5 Mulholland, Montebello, Los Angeles	2- 2-12	7,630	cmtd. 7,538
Kern Oil, No. 3 Taylor, Montebello, Los Angeles	2- 2-12	7,600	O.S. drlg.
Standard Oil, No. 6 Braun, Montebello, Los Angeles	3- 2-12	7,060	sd. sh. drig.
Standard Oil, No. 7 Braun, Montebello, Los Angeles	2- 2-12	7,030	sd. sh. drig.
Standard Oil, No. 8 Braun, Montebello, Los Angeles	3- 2-12	6,451	sd. sh. drig.
Standard Oil, No. 7 Whitehead, Montebello, Los Ang.	3- 2-12	7,660	O.S. drlg.
Standard Oil, No. 8 Whitehead, Montebello, Los Ang.	3- 2-12	5,746	sd. sh. drig.
Union Oil, No. 5 Wilcox, Montebello, Los Angeles	11- 2-12	6,381	sd. sh. drig.
Union Oil, No. 33 La Merced, Montebello, Los Ang.	2- 2-12	7,640	flow 488 b.d.
Union Oil, No. 5 Howard & Smith, Montebello, L. A.	2- 2-12	7,615	O.S. drlg.
Union Oil, No. 7 Howard & Smith, Montebello, L. A.	2- 2-12	7,580	sd. sh. drig.
Union Oil, No. 8 Howard & Smith, Montebello, L. A.	11- 2-12	6,990	sd. sh. drig.
Union Oil, No. 3 Calkins, Montebello, Los Angeles	2- 2-12	7,420	sd. sh. drig.
Union Oil, No. 6 Paul Howard, Montebello, Los A.	11- 2-12	7,420	sd. sh. drig.
Albertson Oil, No. 1-S Montebello, Los Angeles	3- 2-12	3,040	sd. sh. drig.
Graham-Loftus Oil Corp., No. 1 South, Monteb., L. A.	11- 2-12	7,633	O.S. drlg.
B-A Oil Prod., No. 1 Parmalee, Montebello, Los Ang.	11- 2-12	6,398	sd. sh. drig.
B-A Oil Prod., No. 1 H. & S., Montebello, Los Angeles	2- 2-12	4,992	sd. sh. drig.
B-A Oil Prod., No. 2 H. & S., Montebello, Los Angeles	2- 2-12	2,971	sd. sh. drig.
Hathaway Oil, No. 2 Dore, Montebello, Los Angeles	11- 2-12	5,846	sd. sh. drig.
McVicar & Rood, No. 1 Beech, Montebello, Los Ang.	11- 2-12	7,530	O.S. drlg.
McVicar & Rood, No. 1 Matson, Montebello, Los Ang.	11- 2-12	6,994	sd. sh. drig.
McVicar & Rood, No. 4 Manz, Montebello, Los Ang.	2- 2-12	4,962	sd. sh. drig.
Pongratz Pet., No. 1 Martin, Montebello, Los Angeles	2- 2-12	7,640	O.S. drlg.
Montebello Res. Oil, No. 1 Reservoir, Montebello, L.A.	2- 2-12	6,990	sd. sh. drig.
Mont. Oil, No. 1 Nordon, Montebello, Los Angeles	2- 2-12	1,940	sd. sh. drig.
Fullerton Oil, No. 1 Trustee, Montebello, Los Angel.	12- 2-12	7,660	flow 640 b.d.
Fullerton Oil, No. 1 Scott, Montebello, Los Angeles	1- 2-12	7,657	P.B. 7,625
Ring Oil, No. 1 Paden, Montebello, Los Angeles	2- 2-12	5,963	sd. sh. drig.
Pueblo Oil, No. 1 Bint, Montebello, Los Angeles	11- 2-12	6,987	sd. sh. drig.
Texas, No. 1 Wilcox, Montebello, Los Angeles	3- 2-12	418	sd. sh. drig.
McKeon, John, No. 1 Travis, Montebello, Los Angeles	1- 2-12	2,071	sd. sh. drig.
Mission Oil Corp., No. 1 Marcotte, Montebello, L. A.	11- 2-12	6,372	sd. sh. drig.
Star Pet., No. 1 Community, Montebello, Los Angel.	2- 2-12	1,962	sd. sh. drig.
Caminol, No. 1-15 Cowan, Montebello, Los Angeles	2- 2-12	7,537	O.S. drlg.
C. A. P. Oil, No. 1 Dutch, Montebello, Los Angeles	11- 2-12	4,500	sd. sh. drig.
Crail Bros., No. 1 Cowan, Montebello, Los Angeles	1- 2-12	6,840	sd. sh. drig.
Wood-Callahan Oil, No. 1 Todd, Montebello, Los An.	2- 2-12	7,246	sd. sh. drig.
Bush Oil, No. 1 Alauzet, Montebello, Los Angeles	3- 2-12	7,558	redrlg. 7,451
Bush Oil, No. 2 Olds, Montebello, Los Augeles	3- 2-12	5,150	sd. sh. drig.
Herley-Kelly, Inc., No. 1 De Staute, Montebello, L.A.	2- 2-12	7,531	sd. sh. drig.
Sunset Oil, No. 1 Howell, Montebello, Los Angeles	2- 2-12	2,263	sd. sh. drig.
York Oil, No. 1 Long, Montebello, Los Angeles	3- 2-12	3,680	sd. sh. drig.
United Mont. Oil, No. 1 Lot, Montebello, Los Angeles	10- 2-12	4,863	sd. sh. drig.
Kelso, F. W., No. 1 Brea, Puente Hills, Los Angeles	13- 2-10	2,188	cleaning out
Union Oil, No. 1 Operators, Long Beach, Los Angeles	13- 4-13	4,532	O.S. drlg.
Richfield Oil Corp., No. 8-B City, Long Beach, L. A.	28- 4-12	1,977	sd. sh. drig.
Two & One Oil, No. 3 Signal, Long Beach, Los Ang.	18- 4-12	5,775	P.B. 5,530
Dormax Oil, No. 1 Signal, Long Beach, Los Angeles	30- 4-12	4,350	sd. sh. drig.
Rolling Hills Pet., No. 1 Weston, Palos Verdes, L. A.	27- 4-14	6,070	sd. sh. drig.
Traders Oil, No. 1 Wagner, Richfield, Los Angeles	22- 3- 9	4,740	sd. sh. drig.
Exeter Oil, No. 1 Stern, East Coyote, Orange	22- 3-10	4,350	sd. sh. drig.
Southwest Expl., No. 17 State, Huntington B., Orange	10- 6-11	5,441	pmp. 430 b.d.
Southwest Expl., No. 21 State, Huntington B., Orange	10- 6-11	2,090	sd. sh. drig.
Eyers & Peters, No. 1 Newland, Hunting. B., Orange	12- 6-11	3,750	cleaning out
Sherin Oil, No. 4 Farnsworth, Hunting. B., Orange	34- 5-11	3,600	cleaning out
Island View Oil, No. 1 North, Huntington B., Orange	36- 5-11	189	sd. sh. drig.

OKLAHOMA

Week Ending August 26

NORTHERN OKLAHOMA

Alfalfa County

F. W. Dye et al No. 1 Belter, C SE Sec. 32-28-10w. K.C. 4,515 ft.; Miss. 5,060 ft.; Simp. 5,628 ft.; Wlx. 5,700-21 ft.; 2nd. Wlx. 5,745-90 ft., T.D.; S.D.O.

Atoka County

Gillett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. Drlg. 5,976 ft.

Cleveland County

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; swbd. 30 B.O. and 40 B.W. in 24 hrs.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,682 ft.; T.D. 7,695 ft.; swbd. 250 B.F. in 24 hrs.; 10% B.S.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1. Drlg. sh. 6,069 ft.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; T.D. 894 ft.; fsg.

Creek County

Selby O. & G. Co. No. 1 Moore, SE NE SW Sec. 36-16-7. Via. 3,746 ft.; cg. 3,760 ft.

Sunray Oil Co. No. 1 Harris, SW SW NE Sec. 30-14-7. T.D. 2,927 ft.; est. 370,000 cu. ft. gas.

Garfield County

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Greer County

C. S. Amos No. 1 Banks, C NW SW Sec. 21-7-22w. Drlg. 1,030 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 33-4-9. T.D. 4,235 ft., S.D.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Cells & Rutherford No. 1 Wolfenbarger, Sec. 9-27-4. Drlg. 830 ft.

W. C. McBride No. 1-A State, SW NE NE Sec. 13-29-2w. Drlg. 980 ft.

E. W. Marland No. 1 Crook, SW SW SE Sec. 21-28-3. Drlg. 1,240 ft.

Kingfisher County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9w. Lytn. 6,450-6,510 ft.; drlg. 6,587 ft.

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Manr. 7,562 ft.; Wlx. 8,106 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. Drlg. 865 ft.

Hagerling et al No. 1 Bozeman, SE SE NE Sec. 14-5-18w. Drlg. 1,286 ft.

C. J. Hagerling No. 1 Kimray, SW SW NW Sec. 36-5-18w. Drlg. 1,329 ft.

Lewis & Meyers No. 1 Ford, NE NE SE Sec. 14-7-18w. S.D. 1,785 ft.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. T.D. 5,080 ft.; S.D.

McIntosh County

W. B. Pine No. 1 Marlin, C N½ SE NE Sec. 14-11-16. Drlg. below 300 ft.

Noble County

J. E. Crosbie No. 1 Robbins, SW SW NW Sec. 6-22-2w. S.O. 3,261-64 ft.; drlg. 3,300 ft.

Franks & Ellis' No. 1 Stranka, SW SW NW Sec. 35-24-1w. Drlg. 615 ft.

Shell Oil Co. No. 1 Mosena, C W½ W½ SE Sec. 9-21-2. Miss. 4,238 ft.; 1st. Wlx. 4,456 ft.; 2nd. 4,519-26 ft.; T.D. 4,533 ft.; P.B. 3,250 ft.; open 20 min. and rec. mud and S.W.; D.&A.

Okfuskee County

Sands Pet. No. 1 Mathews, C W½ NW SE Sec. 5-11-9. Drlg. 3,358 ft.

Oklahoma County

Hall & Briscoe No. 1 Thompson, SW SW NE Sec. 28-13-1. Drlg. 3,921 ft.

Westcott & Nagle No. 1 Kramer, NE NE NE Sec. 17-12-1w. Drlg. 5,860 ft.

Osage County

Midco Oil Co.'s No. 1 Osage, NE NE SW Sec. 17-22-8. Drlg. 545 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. U.R. 2,950 ft.

Payne County

Blackwell O. & G.'s No. 1 Davis, SE SE SE Sec. 24-18-1. S.D. 2,516 ft.; fuel.

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. T.D. 3,700 ft.; S.S.O.

Pontotoc County

Grisso Royalty and Eason Oil No. 1 Haskins, SE SW SW Sec. 27-5-4. 2,000 ft. O.I.H.; flwd. 2 small hds.; drlg. 2,547 ft.

Smith & Bruson No. 1 Kann, SE SE NE Sec. 13-3-4. S.D. 452 ft.

Simpson-Roodhouse's No. 1 McKay, SW SW NE Sec. 1-2-7. Loc.

Pottawatomie County

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. T.D. 4,411 ft.; S.D.

Kirk-Greenway et al No. 1 Boland, SE NE NW Sec. 28-11-3. Dolo. 5,820 ft.; Wlx. 5,853 ft.; lost circ. at 5,874 ft.

Neustadt et al No. 1 Howeth, NE SE NE Sec. 14-6-4. Sd. and S.S.O. 3,455-60 ft.; S.D. 5,060 ft.

Yorkan Prod. No. 1 Hoffman, NW NW NW Sec. 26-11-3. Wdfd. 5,360 ft.; Hntn. 5,445 ft.; drlg. 5,585 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22. Hntn. 1,451 ft.; T.D. 1,912 ft. (cor.); S.D.

Seminole County

Flynn et al No. 1 Work, NE SE SE Sec. 19-8-7. Wlx. 4,276-92 ft.; set pipe.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. T.D. 14,479 ft.; fsg.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,250 ft.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. T.D. 8,500 ft.; P.B. 6,530 ft.; tstd. wtr. at 6,319 ft.; tstd. Hntn. 4,638-4,737 ft.; set plug 4,454 ft.; ran 4,362 ft. of tbg. and S.D.

Choctaw County

Letchfield & Kirksly No. 1 Schuester, SW SE SW Sec. 13-6s-14. S.D. 975 ft.; repairs.

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. W.O.C. 1,630 ft.

Cotton County

Dean Bros.' No. 1 Emery, NE NE NE Sec. 30-3s-13w. Drlg. 1,659 ft.

Love County

Neff et al's No. 1 Brahma, NW NW SW Sec. 35-6s-2e. S.D. 193 ft.; rotary.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; S.D.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. M.I. tools.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,520 ft.; T.D. 3,353 ft.; S.D.

KANSAS

Week Ending August 26 (Descriptions are East unless marked otherwise)

Atchison County

Earl Wakefield et al No. 1 Natl. Life Ins., C NW NE Sec. 17-6-20. Miss. 1,680 ft.; Hntn. 2,147 ft.; T.D. 2,790 ft.; H.F.W.; D.&A.

Barton County

Bradley Oil Co.'s No. 1 Dolecheck, CEL SE NW Sec. 26-16-12w. Drlg. 824 ft.

W. H. Brinn No. 1 Dirks, CWL SW NE Sec. 31-18-15w. Drlg. 2,010 ft.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-1w. Drlg. 2,910 ft.

Crown Pet. Co. No. 1 Schartz, SE SE NW Sec. 12-20-12w. Drlg. 2,475 ft.

R. E. Day et al No. 1 Feites, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; T.D. 3,574 ft.; S. 13 B.O.P.H.

Butler County

Adair & Morton No. 1 Jones, CWL NW NW Sec. 29-28-7. Drlg. 2,180 ft.

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,600 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

Crown Pet.'s No. 1 Manny, NW NW NE Sec. 33-23-5. Drlg. 1,480 ft.

Marylyn Oil et al No. 1-A Hoard, SW NE NE Sec. 28-29-8. Drlg. 1,140 ft.

Rex & Morris' No. 4 McKaig, SW NW NE Sec. 24-28-6. Drlg. 990 ft.

Simpson & Noble et al's No. 1 Marsh, NW NW SW Sec. 23-28-6. Drlg. 1,040 ft.

Coffey County

Sackrider et al No. 1 Allen, SE NE SE Sec. 13-21-15. T.D. 1,929 ft.; C.O. 1,600 ft.; S.D.

Comanche County

Kerr-Lynn et al No. 1 McMoran, C SE NW Sec. 25-34-16w. Miss. 5,000 ft.; Via. 5,410 ft.; Simp. dolo. 5,590 ft.; Arb. 5,764 ft.; N.S.; drlg. 5,793 ft.

Cowley County

J. R. Lowell et al No. 1 Olsen, NE NE SE Sec. 13-35-7. S.S.O. 2,834-38 ft.; drlg. 2,852 ft.

Wakefield & Blair No. 1 Starkey, SE SE NE Sec. 32-30-4. Drlg. 1,950 ft.

Western Kans. O. & R. Co. No. 1 Gregory, SE SE NW Sec. 2-34-6. Drlg. 2,355 ft.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Hntn. 2,807 ft.; Via. 3,048-55 ft.; S.S.O. 3,156-65 ft.; T.D. 3,170 ft.

Douglas County

Three Star Oil Co. No. 1 Griffith, C NW SE Sec. 4-14-8e. Miss. 1,525 ft.; drlg. 2,020 ft.

Ellis County

Helmerich & Payne's No. 1 Simpson, NE NE SE Sec. 3-11-17w. Drlg. 1,300 ft.

Ellsworth County

Central Pet. et al's No. 1 Schepmann, CSL SW NW Sec. 27-17-10w. Drlg. 2,-896 ft.

I. W. Murfin No. 1 Zajic, C SL SW NE Sec. 31-16-10w. Tpka. 2,676 ft.; S.S.O. 3,195 ft.; Arb. 3,348 ft.; drlg. 3,366 ft.

Franklin County

Security O. & G. Co. No. 1 Teall, C SW NW Sec. 11-17-17. Drlg. 460 ft.

Johnson County

F. O. McCain et al No. 1 Lyons, NW SW NE Sec. 27-13-22. S.D. 345 ft.

Kingman County

Skelly Oil Co. No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Miss. 4,910 ft.; Arb. 5,538 ft.; T.D. 5,800 ft.; drld. cmt. 4,940 ft.; perf.; swbd. 1 B.F.P.H.

McPherson County

H. C. Bennett No. 1 Peterson, CSL NW NW Sec. 32-20-5w. Drlg. 2,545 ft.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Montgomery County

Lerke & Whortan No. 1 Clemmer, C SW SW Sec. 21-32-15. Arb. 1,530 ft.; set 5-in. csg.; W.O.C.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.G. in sh. 1,618-24 ft.; S.D. 1,650 ft.

Pawnee County

Cities Service's No. 1 Robert, C SE Sec. 31-21-15w. Drlg. 3,718 ft.

Pratt County

Atlantic Ref. Co. No. 1 Hacker, CWL SE SW Sec. 11-27-13w. Lans. 3,797 ft.; drlg. 4,213 ft.

Skelly Oil Co. No. 1 Royse, C SW Sec. 9-28-11w. Lans. 3,604 ft.; Vla. 4,246-49 ft.; T.D. 4,268 ft.; S.S.O.; 802,000 cu. ft. gas.

Rice County

Frank Hollow et al No. 1 Guldner, SE SE SE Sec. 5-18-9w. T.D. 3,288 ft.; H. F.W.

Fred Jones et al No. 1 Benhke, NW SW NW Sec. 25-18-10w. R.U.

Phoenix Drlg. No. 1 Linville, SW SW SE Sec. 4-20-10w. Simp. 3,375 ft.; Arb. 3,388 ft.; H.F.W. 3,396 ft.; S.D. 3,400 ft.

Vickers Pet. Co. No. 1-A Rodenberg, CNL NW¼ Sec. 8-18-10w. Lans. 2,930 ft.; Arb. 3,265-81 ft., T.D. N.S.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Lans. 3,180 ft.; S.S.O.; S.D. 3,260 ft.

Russell County

Central Pet. No. 1 Crisman, SW NW NE Sec. 20-14-14w. Gas 2,452 ft.; Lans. 3,-058 ft.; S.O. 3,150 ft.; congl. 3,296 ft.; granite 3,331-35 ft., T.D.; D.&A.

Phil-Han Oil Co.'s No. 1 Mai, CNL S½ NE Sec. 34-14-14w. Drlg. 1,740 ft.

Saline County

Jess Cling et al's No. 1 Erickson (O.W. D.D.), NE NE NE Sec. 28-16-3w. O.T. D. 1,800 ft.; R.U. to D.D.

Sedgwick County

Cameron & Spencer No. 1 Fields, NE NE NW Sec. 4-28-2. K.C. 2,516 ft.; S.D. 2,-670 ft.

Parks et al's No. 1 Fisher, NW NW NE Sec. 25-26-1. Drlg. 300 ft.

Sherman County

Goodland Ind. Gas Co. No. 1 Wilcoxson, SE NW Sec. 27-8s-39w. T.D. 1,100 ft.; est. 25,000 cu. ft. gas.

Stafford County

Atlantic Ref.'s No. 1 Harter, CEL NE SW Sec. 9-21-13w. W.O.C. 238 ft.

Continental Oil Co. No. 1 Keller, SE SE SE Sec. 15-24-13w. S.O. 3,733-43 ft., cd. 4,111-16 ft. and rec. 5 ft. sat.; T.D. 4,116 ft.; 3,900 ft. O.I.H.

Woodson County

Bird, Hanley & Sheedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

Turner et al's No. 1 Tipton, SE NW SW Sec. 32-25-14. Skd. rig 5 ft.; spd.

MISSOURI

Adair County

Mason Oil Co. No. 1 McGonigle, CNL SE NW Sec. 20-63-13w. S.O. 1,002-73 ft., 1,116-63 ft.

Andrew County

Davis Bros. et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. S.O. in Bart. 995 ft.; drlg. below 1,675 ft.

Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. Bart. 1,003 ft.; S.D. 2,003 ft.

Bates County

Monarch Roy.'s No. 1, C SW SE Sec. 11-39-30w. S.O. 834-36 ft., T.D.

Bollinger County

Delmund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. S.D. 1,450 ft.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 28-53-32w. S.S.O. 475-80 ft.; gas 595 ft.; S.D. 1,884 ft. in Arb.; may P.B. to gas sd.

Pabelo Dev. Co.'s No. 5-A Robb, NW NW SE Sec. 36-52-32. T.D. 600 ft., S.G.; S.D.O.

Butler County

Coastal Pet. et al No. 1 Pierson, SW NE NW Sec. 27-22-6e. S.D. 149 ft. (cor.)

Charlton County

Frank Buttram No. 1 Vance, NW SE NE Sec. 35-53-18w. Arb. 835 ft., T.D.; D.&A.

DeKalb County

Geo. W. Moore No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. csg. 1,500 ft.

Hickory County

J. W. Sims No. 1 Wilson, NW NW NW Sec. 3-37n-21w. T.D. 1,638 ft., abd.

Holt County

Brin & Nathan No. 1 Decker, C NW NW Sec. 1-61-38w. Drlg. below 793 ft.

Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. R.R.

J. H. Everitt et al No. 1 Spring, SW SW SE Sec. 30-62-38w. T.D. 2,851 ft.; D.&A.

Livingston County

Davis Bros. No. 1 Minning, SE SE NW Sec. 22-58-23w. T.D. 550 ft.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.

Geo. W. Moore No. 1 Moss, NW SW SE Sec. 30-65-24w. Hntn. 1,273 ft.; T.D. 1,400 ft.; S.O.

Ray County

Bert Featherlin No. 1 Penny, C W½ NE Sec. 1-53-27w. T.D. 289 ft., T.A.

Loomis-Jordan No. 1 Macey, NE SW NW Sec. 10-53-27w. S.O. 330 ft., T.D.; set csg.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. S.D. 150 ft.

Shelby County

Wright & Turner No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). S.D. csg. 612 ft.; prep. to D.D.

Sullivan County

H. V. Elwell No. 1 Taylor, SW NW NE Sec. 12-62-21w. Hntn. 1,014 ft.; T.D. 1,740 ft. in Arb.; N.S.; D.&A.

ARKANSAS

Clark County

W. P. Wilson's No. 1 Hamilton & Mathews, C W½ NE NE Sec. 31-10s-20w. Run 10-in. csg. 41 ft.; drlg. wtr. sd. 326 ft.

Columbia County

Atlantic Ref. Co. No. 1 Brown, C NW NE Sec. 22-17-20. Drlg. rd.&gr. sh. 6,-515 ft.

Atlantic Ref. Co. No. 1 Pine Woods Lbr. Co., C NE NE Sec. 16-18-22. Set 9⅝-in. csg. 4,102 ft.; T.D. 9,000 ft.; set csg. on bttm.; W.O.C.

Atlantic Ref. Co.'s No. 2 L. Spain, C SE SW Sec. 18-17-19. Drlg. rd.&gr. sh. 5,-900 ft.

Marine Oil Co. No. 1 Jones, 656 ft. N, 663 ft. W, SE cor. NE NW Sec. 21-17-20. Drlg. gr. sh. 4,265 ft.

Normandie Oil Co. No. 1 Dees, C NE SE Sec. 24-17-20. Drlg. sdy. sh. 7,370 ft.

Phillips Pet. No. 2 Longino, Sec. 15-17s-20w. Set 5½-in. csg. 7,722 ft.; T.D. 7,765 ft.; wshg.

Phillips Pet. Co. No. 2 Walthall, C SW SW Sec. 15-17-20. T.D. 7,732 ft.; ran csg.; W.O.C.

Southwood Oil Co. and Ark. Fuel Oil Co. No. 1 Jas. Johnson, C NE SE Sec. 22-17-20. T.D. 7,640 ft.; ran csg.; W.O.C.

Southwood Oil Co. No. 1 H. F. Simmons, C NE SW Sec. 22-17-20. 10¾-in. csg. 2,167 ft.; drlg. gr. sh. 3,880 ft.

Southwood Oil Co. No. 2 Walthall, C SW NW Sec. 22-17-20. Drlg. 7,436 ft.

Standard Oil No. 1 J. A. Foster, Sec. 19-17s-19w. Set 6-in. csg. 7,453 ft.; set 370 ft. of 4½-in. at 7,594 ft.; fsg. tbg.; T.D. L., 7,594 ft.

Standard Oil Co. of La. No. 1 D. R. Booth, 660 ft. S and E, NW cor. NW SE Sec. 24-17-20. Drlg. hd. L.&sh. 6,-850 ft.

Standard Oil Co. of La. No. 1 Merritt et al Unit, C SW SE Sec. 16-17-20. Set 9⅝-in. csg. 2,212 ft.; drlg. sd.&sh. 5,051 ft.

Standard Oil Co. of La. No. 1 Nancy Johnson et al, 660 ft. SW cor. SW SE Sec. 9-16-22. T. Bknr. 7,007 ft.; T. L. 7,245 ft.; T. por. L. 7,248 ft.; set 6-in. csg. 7,272 ft.; W.O.C.

G. H. Vaughn's No. 1-B J. Jones, C NW NE Sec. 21-17-20. Set 13⅜-in. csg. 120 ft.; 9⅝-in. csg. 2,150 ft.; W.O.C.

Craighead County

Tennark, Inc., No. 1 R. M. Martin, SE cor. NE NE Sec. 35-14-3e. Drlg. hd. L. 3,-014 ft.

Faulkner County

Cato Oil Co., Inc.'s No. 1 R. R. Harrell, 330 ft. SE cor. SE SW Sec. 35-4n-12w. Set 10-in. csg. 210 ft.; 7-in. csg. 2,260 ft.; sd. 2,367-70 ft.; flwd. est. 40,000 cu. ft. gas daily; S.I.C.P. 50 lb.; T.D. 2,370 ft.; arng. cmt. csg. 2,370 ft.

Howard County

Wm. James No. 1 I. M. Brooks, 115 ft. W, 462 ft. N, SE cor. NW NW Sec. 2-8s-27w. Pulled 10¾-in. csg.; rmd. to bttm.; S.D. 346 ft.; W.O.

Joe Rogers et al No. 1 Dierks Lbr. Co., C SW SW Sec. 7-8s-28w. R.U.C.T.

Independence County

C. P. Daniels' No. 1 Kelly Myatt, 1,085 ft. S, 50 ft. E, NW cor. SE Sec. 16-12n-5w. T. gas sd. 598 ft.; T.D. 603 ft.; no csg. in hole; S.D.; W.O.

Lafayette County

East Tex. Ref. Co. et al No. 2 Buchanan, 330 ft. N, 660 ft. E, SW cor. NE NW Sec. 19-16-23. Set 5½-in. csg. 3,386 ft.; swbd. dry; arng. acd. at 3,474 ft.

East Texas Ref. Co. et al No. 2-A Warren, C N½ NW NW Sec. 24-16-24. 5½-in. csg. 3,291 ft.; T.D. 3,630 ft.; set 171 ft. of 4-in. csg. 3,351 ft.; drlg. plug 3,500 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson townsite, Sec. 18-4n-9w. Reported S.O. 1,400-50 ft.; hole clean; ran survey to 2,573 ft.; P.B. 1,470 ft.; set 4½-in. csg. 1,390 ft.; reset 4½-in. csg. 1,540 ft.; P.B. to test sd. 1,940 ft.; O.T.D. 2,-670 ft.

W. L. Tedford No. 1 Anderson, Sec. 7 4n-9w. Set 6¼-in. csg. 1,025 ft.; drlg. 1,050 ft.

Nevada County

Benedum & Trees Oil Co.'s No. 2 W. R. Mitchell, 330 ft. N, 990 ft. W, SE cor. Sec. 4-14-20. R.U.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. Stk. 5⅛-in. 2,777 ft.; set 986 ft. at 2,777 ft.; T.D. 2,832 ft.; shot with nitro 2,575-78 ft.; pmpd. est. 50 B.F.P.D.; S.S.O.; O.T.D. 2,832 ft.; rpd. csg. 2,570-78 ft.; rpd. csg. 2,306-10 ft.; pmpd. est. 600 bbl. S.W. per day; W.O.

Lion Oil Ref. Co. No. 1 B. Annie, SE NE Sec. 29-15-17. Drlg. gr. sh. 4,698 ft.

A. B. Turner et al No. 1 Cook Est., C NW SW Sec. 27-15-18. 10-in. 210 ft.; T. Nacth. 1,588 ft.; claim S.S.O.; S.D. 1,603 ft. for wtr.

Pike County

Bruce E. Wallace No. 2-A Glenn Tilyeu, 320 ft. N, 330 ft. W SE cor. Sec. 26-8s-24w. Set 6-in. csg. 385 ft.; reported S.O. 400 ft.; set 4-in. csg. 501 ft.; fsg. C.T. bit 557 ft.

Pulaski County

Coker Oil Corp.'s No. 1 Huffman, 330 ft. NW cor. NW SW SW Sec. 29-4n-11w. 8¾-in. csg. 206 ft.; drlg. bl. sh. 1,530 ft.

Union County—Schuler

Phillips Pet. Co. No. 9 Sewell, 330 ft. SW cor. NW Sec. 7-18-17. Set 10¾-in. csg. 2,140 ft.; T. Jones sd. 7,596 ft.; tstd. S.W. 7,640 ft.; drlg. 7,668 ft.

Union County—Other

Arkansas Southern Oil Corp. No. 3-A Simmons, NW cor. NE NW Sec. 15-18-13. Set 4-in. csg. 2,510 ft.; W.O.C.

Crestrock Oil Co.'s No. 1 E. Riley, 330 ft. S, 250 ft. W, NE cor. NW SW Sec. 9-16-15. R.U.

H. L. Halverson No. 1 Moore, C SE SE Sec. 1-17s-14w. Set 10¾-in. csg. 103 ft.; W.O.C.

Lion Oil Ref. Co. No. 9-A Hays, Sec. 4-16-15. O.W.W.O.; O.T.D. 7,255 ft.; P.B. 2,325 ft.; rpd. csg. 2,276-80 ft.; S.O.; pmpg. 2,325 ft.

Lion Oil Ref. Co. No. 1 Hill, 330 ft. SE cor. SE NW Sec. 6-18-13. O.W.D.D.; O. T.D. 2,563 ft.; tstd. oil and S.W. 2,682-88 ft.; S.O. in Blossom sd. 2,790-2,818 ft.; set 5-in. csg. 3,050 ft. to tst. Graves sd. at 2,675 ft.

J. R. Lockhart No. 2 P. Jerry, 510 ft. S, 230 ft. W, NE cor. NE SE Sec. 15-17-14. D.S.T. 2,782-90 ft.; rec. 1 jt. oil and 21 stands S.W.; set 7-in. csg. 3,088 ft.; T.D. 3,123 ft.; perf. 2,782-84 ft.; swbd. S.W.; S.S.O.; set retainer 2,695 ft.; perf. 2,653-55 ft.; swbd. S.W.; W.O. 3,123 ft.

Bob Milam No. 1 Primm Est., SE cor. Lot 5, NE Sec. 1-16-16. Set 5-in. csg. 2,560 ft.; T.D. 2,579 ft.; perf. csg. 2,-280-84 ft.; tstd. est. 500,000 cu. ft. dry gas; S.I.C.P. 210 lb.

Joe Modisett et al No. 2 Union Sawmill Co., C NW NE Sec. 13-18-12. 10¾-in. csg. 1,237 ft.; drlg. gr. sh. 3,565 ft.

MISSISSIPPI

Claiborne County

Claiborne Co. Dev. Co. No. 1 Ruth Hayden, S½ SE Sec. 55-11n-2e. O.W.W.O.; O.T.D. 2,949 ft.; formerly D.&A.; S.D. 3,350 ft.

Harrison County

Big Ridge Oil Co. No. 1 Hingin, Sec. 13-7s-10w. T.D. 2,700 ft.; no report.

Hinds County

G. Jeffereys No. 1 Gaddis Farms, Inc., 700 ft. E, 545 ft. S, NW cor. SE Sec. 26-7n-4w. S.D. 7,221 ft.

Humphreys County

Union Prod. Co. No. 1 Mrs. Mattie Box, C SW Sec. 15-14n-4w. T. igneous rk. 3,634 ft.; cg. 5,527 ft.

Issequena County

Ryan & Anderson, Inc., No. 1 State of Miss., 600 ft. N, 400 ft. E, SW cor. Sec. 36-12n-8w. Drlg. sdy. sh. 3,300 ft.

Lafayette County

Adam O. & G. Co. No. 1 Z. E. Lewellen, 990 ft. WL, 330 ft. NL, NE NW NW Sec. 9-10s-1w. Drlg. chert 3,136 ft.; no report.

Simpson County

Cleve Love No. 1 N. E. Gardner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,150 ft., Wlx.

Yazoo County

Union Prod. Co. No. 1 G. C. Woodruff, 1,320 ft. N, 660 ft. E, SW cor. Sec. 13-10n-3w. T.D. 4,437 ft.; P.B. 4,337 ft.; W.O.C.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co.'s No. 1 Gayoso, 1,880 ft. N, 660 ft. E, SW cor. Sec. 14-16-10. O.W.D.D.; O.T.D. 2,613 ft.; drlg. hd. sh.&L. 3,092 ft.

Hunt Oil Co. No. 1 Hodge-Hunt Lbr. Co., 300 ft. E, C Sec. 36-17n-6w. T. Pettit L. 6,710 ft.; no por.; drlg. sh. 7,491 ft.

Bossier Parish

Gulf Ref. Co.'s No. 20 C. B. Hodges, 3,-131 ft. N, 1,388 ft. W, SE cor. Sec. 24-16-12. 16-in. csg. 117 ft.; drlg. bl. sh. 550 ft.

Longwood O. & G. Co.'s No. 1 Belden & Baughn, C SE NW Sec. 28-20-12. Drlg. 200 ft.

Premier Inv. Co.'s No. 6-B Kendrick, 1,-714 ft. E, 1,347 ft. N, SW cor. Sec. 22-19-11. Drlg. 250 ft.

Union Prod. Co. No. 1 Lincoln Ld. Co., 1,320 ft. W, C Sec. 17-16-10. Tstd. Ptt. L. 5,230-50 ft.; no show; D.S.T. 5,230-50 ft.; tstd. dry; cg. L.&sh. 5,540 ft.

Caddo Parish

J. G. Bailey et al's No. 2-A Muslow, Sec. 17-20-15. 10-in. 62 ft.; 8-in. 1,325 ft.; W.O.C.

J. M. Buckler No. 1 Barrett et al, 777 ft. W, 150 ft. S, NE cor. Sec. 11-20-16. 6⅝-in. 1,412 ft.; W.O.S.R.

East Texas Ref. Co.'s No. 1 T. A. Howell et al, 450 ft. S, 660 ft. W, NE cor. Sec. 8-23-15. T.D. 6,112 ft.; rng. sur.

Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-20-16. Set 6-in. csg. 1,701 ft.; T.D. 1,701 ft.; W.O.S.R.

A. R. Hancock No. 6 Standard Oil Co. fee, 1,410 ft. E, 770 ft. N, C Sec. 18-21-15. Set 7-in. csg. 1,455 ft.; blew out; est. 700 B.P.D.; S.I.; T.D. 1,668 ft.

Ben Levy et al's No. 2 Crystal, 810 ft. SW cor. NW Sec. 25-21-16. R.U.

P. N. McCullough's No. 1 Hart, SW SW Sec. 21-21-16. Drlg. sh. 975 ft.

Mahoan & Griffith's No. 2 J. W. Browning, Sec. 27-22-16. Drlg. 1,450 ft.

A. H. Neighbors No. 1 W. C. Agurs, 660 ft. N, 990 ft. E, SW cor. SE Sec. 2-20-16. 8-in. csg. 1,430 ft.; will acd. 1,605 ft.

Oblinger & Ritter No. 3 Boisseau, 1,220 ft. N, 1,310 ft. E, SW cor. SE Sec. 34-21-16. 6-in. csg. 969 ft.; W.O.S.R.

Prairie River Synd. No. 2-B Hutchison, 4,055 ft. N, 480 ft. E, SW cor. Sec. 3-15-12. Set 13⅜-in. csg. 735 ft.; drlg. sh. 4,092 ft.

John Schmidt No. 2 Sproull, 970 ft. N, 570 ft. W, SE cor. Sec. 32-20-16. Tstd. S.W. 1,654 ft.; W.O.

Seymour Oil Co. No. 1 Hughes et al, 330 ft. NE cor. NW Sec. 15-20-15. W.O. csg. 2,204 ft.

Skidmore-O'Mara, Inc.'s No. 1 Muslow,

O.W.W.O., 4,150 ft. N, 579 ft. W, SE cor. SW Sec. 31-21-15. Will set csg. 1,572 ft.

Stanolind O. & G. Co. No. 1, 131 Dillon hrs., C SE NE Sec. 14-21-15. Drlg. sh. 7,015 ft.

Joe G. Strahan et al's No. 3-A Stiles, 1,908 ft. N. 723 ft. E, SW cor. Sec. 29-21-16. 10-in. csg. 40 ft.; drlg. 1,500 ft.

Terrill & Horton No. 1 Smith, 200 ft. S and W, C Sec. 36-21-16. S.D. 915 ft.; rig repair.

Caldwell Parish

Ark. Fuel Oil Co. No. 1 La. Central Lbr. Co., C NW SW Sec. 31-12-3e. T. Wlx. 1,516 ft.; 9⅝-in. csg. 1,732 ft.; drlg. sh. 3,620 ft.

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. S.D.O. 3,004 ft.

Catahoula Parish

Bell Drlg. Co. No. 1 Peck, C SW NE Sec. 33-11n-8e. S.D. 50 ft.

Claiborne Parish

Lisbon Explin. Co. No. 1 Roberta Vaughn, 330 ft. N, 660 ft. E, SW cor. NW NE Sec. 36-21-5. O.W.D.D.; O.T.D. 5,313 ft.; recmtd. 7-in. csg. 5,343 ft.; drlg. 5,375 ft.

De Soto Parish

Daniel Murray No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16; O.W.D.D.; O.T.D. 2,046 ft.; T.D. 2,515 ft.; tstd. S.W.; P.B. 1,700 ft.; tstd. small S.G.; drlg. out cmt. 2,580 ft.

Roosth & Genecov Prod. Co. No. 1 Woolums, 990 ft. S, 330 ft. E NW cor. SW¼ Sec. 29-12-12. S.D. 2,881 ft.; W.O.

C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. S.D. 2,160 ft.; repair rig.

Watts Oil & Gas Co. No. 1 Frank Grocery Co., 338 ft. S, 450 ft. W NE cor., NW Sec. 35-12-11. S.D. 940 ft.

Franklin Parish

Continental Oil Co.'s No. 1 Sherrouse, 330 ft. N, 660 ft. W, SE cor. NE SE Sec. 22-13n-8e. Set 16-in. csg. 207 ft.

Grant Parish

Arrow Drlg. Co.'s No. 1 Maxwell, 330 ft. S, 810 ft. W, C Sec. 9-9-1e. Drlg. sh. 550 ft.

C. M. Bowers' No. 1 Morrison, 2,740 ft. N, 3,040 ft. W, SE cor. Sec. 34-9n-1w. Cg. sdy. sh. 1,499 ft.

La Salle Parish

H. N. Saurage No. 5 Dean, 782 ft. S, 720 ft. W, NE cor. Sec. 23-9-1e. T. sd. 1,590 ft.; 5½-in. csg. 1,590 ft.; T.D. 1,591 ft.; W.O.S.R.

Smith Bros.' No. 1 Kenney, 660 ft. S, 150 ft. W, C Sec. 7-10-2e. R.U.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. Set 20-in. csg. 125 ft.; 16-in. csg. 712 ft.; set 10¾-in. csg. 2,448 ft.; drlg. sh.&shlls. 4,672 ft.

Sabine Parish

H. C. Cummings No. 1 Gracia, 330 ft. SE cor., NW SE Sec. 4-7-13. Set 10-in. csg. 60 ft.; 6-in. 2,033 ft.; T.D. 2,045 ft.; T. clk. 2,028 ft.; tstd. dry 2,252 ft. and flwd. est. 300 bbl. in 5 hrs.; went dead; W.O.S.R. 2,320 ft.

Geo. Ellis No. 1 Walker, 500 ft. NW cor. NW SE Sec. 8-4-12. Set 12½-in. csg. 276 ft.; reported S.O. 2,180 ft. and 2,263-65 ft.; rng. csg. 2,269 ft.; cd. sdy. sh. 2,265-69 ft.; set 7-in. csg. 2,250 ft.; D.S.T. sd. 2,797-2,807 ft.; rec. 1,000 ft. S.W.; D.S. stk.; T.D. 2,837 ft., S.D.; rig moved.

Major Oil Co. No. 7 Bowman Hicks, 330 ft. NW cor. NE SE Sec. 11-7-13. T. clk. 2,139 ft.; set 7-in. csg. 2,143 ft.; W.O.C.

M.C.M. Drlg. No. 1 Sipulvado, Sec. 4-7n-13w. 6-in. 2,040 ft.; T. chk. 2,012 ft.; tstd. S.G. 2,108 ft.; used 3,000 gal. acd.; tstd. S.O.; arng. dpn. 2,225 ft.

Oglesby & Baird's No. 1 Sabine Lbr. Co., SW cor. SW SE Sec. 5-7-13. 10-in. csg. 62 ft.

Okla.-Texas Tr.'s No. 3 Frost Lbr. Co., NE cor. NE SW Sec. 22-9-13. S.D. 1,243 ft.; rig repair; 12½-in. csg. 78 ft.

K. R. Phillips No. 1 Craig, 335 ft. S, 330 ft. E NW cor., SE Sec. 22-9-13. 5-in. csg. 1,568 ft.; T.D. 1,683 ft.; tstd. S.O.; used 500 gal. acd.; 1,300 ft. F.I.H.; T.D. 1,698 ft.; W.O.S.R.

W. L. Posey No. 1 Rivers, C NW NW Sec. 26-8-13. S.D. 2,052 ft.; wtr.

W. M. Quick No. 1 Sabine, SE cor. NE SE Sec. 8-7-13. 6-in. csg. 2,061 ft.; tstg. 2,116 ft.

H. M. Stleed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; 6-in. csg. 2,061 ft.; W.O.S.R.; T.D. 2,116 ft.

J. A. Williams No. 1 Long Bell Lbr. Co., 250 ft. S. 550 ft. W. C Sec. 33-8-14. T. ch. 2,097 ft.; used 2,000 gal. acd. and tstd. dry; hole clean; W.O.; T.D. 2,247 ft.

Webster Parish

Geo. B. Barham's No. 1 Bodcaw Lbr. Co., 627 ft. N, 710 ft. E, SW cor. SE Sec. 15-21-10. O.W.D.D.; O.T.D. 4,683 ft.; arng dpn.

Geo. B. Barham No. 1 Merritt, 596 ft. N, 736 ft. E, SW cor. Sec. 14-21-10. Set 5-in. csg. 5,913 ft.; Hllwy. sd. 5,675-80 ft. (gas and dist.) and 5,756-63 ft., oil; perf. 5,675-80 ft. and 5,756-83 ft.; tstg.; T.D. 5,913 ft.

Hassie Hunt's No. 1 Gardner, C NW NE Sec. 32-21-10. Drlg. 105 ft.

Hunt Oil Co. No. 1 Glass et al, C SE NW Sec. 30-21-9. Set 9⅝-in. csg. 5,665 ft.; drlg. sh. 6,457 ft.

Hunt Oil Co. No. 2 E. L. Stewart, Sec. 32-21n-10w. No Hllwy. sd.; drlg. sh.&L. 7,570 ft.

Midstates Oil Corp.'s No. 1 W. L. Coyle, 100 ft. NW, C NE SE Sec. 20-21-10. Drlg. 2,792 ft.

Ohio Oil Co.'s No. 25 Gray Acct. 1, 1,980 ft. S, 660 ft. E, NW cor. Sec. 26-21-10. Set 9⅝-in. csg. 616 ft.; drlg. 2,435 ft.

Stanolind O. & G. Co. No. 2 Pardee, Sec. 25-21-10. Set 9⅝-in. csg. 5,708 ft.; T. C.V. 7,805 ft.; "D" sd. 8,236-49 ft., gas and dist.; Bdcw. sd. 8,323-67 ft., gas and dist.; 7-in. csg. 8,379 ft.; W.O.C.

Stanolind O. & G. Co. No. 3 Pardee, C SW SE Sec. 35-21-10. Drlg. sh. 6,962 ft.

Stanolind O. & G. Co.'s No. 4 Pardee, 660 ft. SE cor. Sec. 25-21-10. R.U.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 3 Brookshire, Sec. 66-12s-3e. Loc.

Continental Oil Co No. 1 David Meaux. Sec. 9-12s-3e. Drlg. sh. 10,401 ft.; no report.

Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 10 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. Drk.

Republic Prod. Co. No. 9 Lutcher Moore, Sec. 15-6s-13w. Drlg. sd.&sh. 7,630 ft.; no report.

Republic Prod. Co. No. 10 Lutcher-Moore, Sec. 15-6s-13w. Drlg. sh.&shlls. 6,529 ft.; no report.

Bateman Lake—St. Mary Parish

Texas Co. No. 1 St. Mary Parish Sch. Bd., Sec. 16-16s-12e. Drlg. 1,820 ft.

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. T.D. 10,986 ft.; 7⅝-in. csg. 10,985 ft.; cg. sh. 11,210 ft.

Baton Rouge—East Baton Rouge Parish

W. V. Bowles et al's No. 1 E. Reinkin, Sec. 46-7s-1e. R.U.

Guaranty Oil Co. No. 2 Morgan, Sec. 65-7s-1w. Drlg. sdy. sh. 5,004 ft.

M. T. Grubb et al No. 1 College Town Com., Sec. 67-7s-1w. T.D. 6,508 ft.; 5½-in. csg. 6,490 ft.; I.P. 720 B.P.D.; ¾-in. ck.

M. T. Grubb et al No. 1 University Hills, Sec. 68-7s-1w. T.D. 6,588 ft.; 5½-in. csg. 6,568 ft.

Wm. Helis No. 1-B Duplantier, Sec. 68-7s-1w. Drlg. sdy. sh. 5,162 ft.

Wm. Helis et al's No. 2-D D. D. A. Duplantier, Sec. 66-7s-1w. Drk.

Wm. Helis No. 7-A D. A. and E. A. Duplantier, Sec. 65-7s-1w. T.D. 6,477 ft.; 7-in. csg. 6,460 ft.

Wm. Helis et al's No. 2 Materiste, Sec. 66-7s-1w. Drlg. sd.&shll. 1,850 ft.

Wm. Helis No. 3 Nelson, Sec. 36-7s-1w. T.D. 7,194 ft.; perf. csg. 6,462-68 ft.; flwd. 80% S.W.; killed; sqzd. perf.; W.O.C.; perf. csg. 6,460-68 ft.; lost swb.; P.B. 6,486 ft.; perf. csg. 6,460-82 ft.; would not flw.

Wm. Helis' No. 2 Williams, Sec. 66-7s-1w. Loc.

T. G. Markley et al No. 3 Knox, Amis-Farnbacker, Sec. 66-7s-1w. Loc.

T. G. Markley-Crosby Drlg. Co.'s No. 4 Kmoy-Amis Farnbacker, Sec. 66-7s-1w. T.D. 6,482 ft.; 7-in. csg. 6,468 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 19 State-Bay St. Elaine, Sec. 18-22s-18e. Drlg. sh.&L. 5,612 ft.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 11 Wilberts, Sec. 67-9s-11e. Loc. abd.

Bayou Choctaw—Iberville Parish

Standard Oil Co. (La.) No. 11 Wilbert, Sec. 53-9s-11e. T. salt 718 ft.; drlg. salt 2,107 ft.

Bayou des Glaise—Iberville Parish

Humble O. & R. Co. No. 1-B Wilbert, Sec. 78-8s-8e. T.D. 3,025 ft.; 13⅜-in. csg. 3,000 ft.; T. salt 4,101 ft.; T.D. 4,182 ft.; S.D.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 2 Gheens Realty Co., Sec. 37-15s-20e. Drlg. sh. 6,605 ft.

Black Bayou—Cameron Parish

Earth Pet. Co. No. 2 R. A. Moore, Sec. 18-12s-12w. Drlg. sh. 3,698 ft.

Caillou Island—Terrebonne Parish

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.

Texas Co. No. 57 State, Sec. 20-23s-20e. T. salt 3,734 ft.; T.D. 3,750 ft., salt; 7-in. csg. 3,750 ft.; perf. csg. 3,680-3,710 ft.; tstd. mud; perf. csg. 3,620-64 ft.; sanded up; pulled screen and reset; tstg.

Cameron Meadows—Cameron

Magnolia Pet. Co. No. 25 Cameron Meadows, Sec. 21-14s-13e. Drlg. sdy. L. 5,886 ft.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec 25-19s-16e. T.D. 12,942 ft.; P.B. 12,430 ft.; sdtrkd.; set 2,895 ft. of 7-in. csg. at 12,740 ft.; drlg. sh. 13,094 ft.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. 13⅜-in. csg. 1,842 ft.

Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. S.D. 4,259 ft.; anhy.

Chalkley Field—Cameron Parish

Humble O. & R. Co.'s No. 5 K. B. Hanzen, Sec. 9-12s-6w. Drk.

Humble O. & R. Co. No. 4 Sweet Lake Ld. & O. Co., Sec. 7-12s-6w. T.D. 8,448 ft.; P.B. 7,508 ft.; prep. to P.B.

Shell Oil Co., Inc., No. 3 Hanzen, Sec. 21-12s-6w. 10¾-in. csg. 2,752 ft.; drlg. sh. 7,721 ft.

Charenton—St. Mary Parish

DeArman et al's No. 1 C. A. Kern, Sec. 21-13s-9e. T.D. 600 ft.

Fifteen Oil Co. No. 2 State, Sec. 31-13s-10e. Drlg. sh. 2,381 ft.; no report.

Knisley Oils, Inc.'s No. 1 Hertel, Sec. 21-13s-9e. T.D. 1,806 ft.; P.B. 1,150 ft.; W.O.C.

Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. T.D. 8,009 ft.; P.B. 7,170 ft.; tstd. sd. and wash wtr.

Pan American Prod. Co. No. 16 Laws Realty Co., Sec. 30-13s-10e. Drlg. sh. 1,050 ft.; no report.

Pan American Prod. Co. No. 18 Veeder, Sec. 11-13s-9e. Drlg. sdy. sh. 1,290 ft.

Pan American Prod. Co. No. 19 Veeder, Sec. 11-13s-9e. T.D. 2,640 ft.; 7-in. csg. 2,630 ft.

St. Mary Oil Co. No. 1 Achee, Sec. 21-13s-9e. T.D. 1,124 ft.; 7-in. csg. 1,108 ft.

St. Mary Oil Co.'s No. 2 Achee, Sec. 21-13s-9e. Drlg. sh. 830 ft.

St. Mary Oil Co.'s No. 3 Achee, Sec. 21-13s-9e. Loc.

St. Mary Oil Co.'s No. 4 Achee, Sec. 21-13s-9e. Loc.

Cheneyville—Rapides Parish

Gulf Oil Corp. No. 1 Bickerstaff, Sec. 4-18s-2e. R.U.

Gulf Oil Corp. No. 1 M. B. Pope, Sec. 4-1s-2e. T.D. 9,251 ft.; abd.

Gulf Oil Corp. No. 1 C. U. Pope, Sec. 4-18-2e. T.D. 5,795 ft.; S.W. sd.

S. W. Richardson No. 2 Well, Sec. 54-1s-2e. T.D. 5,797 ft.; perf. csg. 5,735-37 ft.; tstg.; no report.

Convent—St. James Parish

Continental Oil Co. No. 2 Colonial Sugars, Inc., Sec. 50-12s-4e. Drlg. sh. 9,080 ft.

Continental Oil Co.'s No. 2 Realty. Sqzd. perf. 8,035-86 ft.; perf. csg. 7,970-90 ft.

Choctaw—Iberville Parish

Standard of La. No. 1 Wilbert, Sec. 53-9s-11e. Loc.

Creole—Cameron Parish

Superior Oil Co. No. 7 State, Gulf of Mexico, T.D. 6,850 ft.; P.B.; sdtrkd.; T.D. 6,748 ft.; W.O.C.

Darrow—Ascension Parish

Humble O. & R. Co. No. 24 Community, Sec. 31-10s-2e. Drlg. sdy. sh. 4,658 ft.

Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 23 State, Sec. 5-22s-16e. Drlg. sh. 7,030 ft.

Edgerly Field—Calcasieu Parish

Emerson Oil Co. No. 14 Hunter, Sec. 21-9s-11w. Drlg. sh. 3,220 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp. No. 1 Wm. Glaze. Sec. 6-2s-3e. Cg. 8,499 ft.; sd. 8,436-99 ft.; T.D. 8,520 ft.; 5½-in. csg. 8,519 ft.; perf. csg. 8,383-8,505 ft.

Amerada Pet. Corp. No. 2 R. R. Iron, Sec. 6-2s-3e. Drlg. sh. 5,830 ft.

Amerada Pet. Corp. No. 2 Mrs. C. B. Marchive, Sec. 6-2s-3e. T.D. 8,530 ft.; run 5½-in. csg.

Amerada Pet. Corp. No. 3 Marchive, Sec. 6-2s-3e. Loc.

Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.

Amerada Pet. Corp. No. 2 Whitlow, Sec. 6-2s-3e. R.U.

J. Edward Jones' No. 1 Barrone. Cg. 8,486 ft.

Gulf Expln. Co. No. 5 Samuel Haas Est., Sec. 8-2s-3e. T.D. 8,584 ft.; 5½-in. csg. 8,584 ft.; perf. csg. 8,565-70 ft.; flwd. oil; went dead; S.D.

Geo. Lilly et al No. 1 Dent, Sec. 1-2s-2e. Loc.

Sid Richardson No. 1 Sam Hasse, Sec. 1-2s-2e. T.D. 8,813 ft.; sd. 8,552-62 ft.; flwd. small amt. of oil; went dead; S.D.

Sid Richardson No. 3 State-Bayou Bouef, Sec. 6-2s-3e. R.U.

Fausse Point—Iberia Parish

Texas Co. No. 6 State, Twp. 11s-8e. R.U.

Garden Island—Plaquemines Parish

Texas Co. No. 36 State, Sec. 38-23s-33e. Drlg. sh.&L. 2,942 ft.

Golden Meadows—La Fourche Parish

F. W. Bennett O. & R. Co.'s No. 1 Justillien Orgeron, Sec. 12-19s-22e. Cd. oil sd. 5,157-5,200 ft.; cg. sdy. sh. 5,430 ft.

Golden Meadows Oil Co.'s No. 1 Collins Unit, Sec. 12-19s-22e. R.U.

Wm. Helis' No. 1 Gaspard & Rizau, Sec. 9-19s-22e. Cg. 2,656 ft.

M. H. Marr and R. A. Bristol No. 1 Church property. Sec. 2-19s-22e. T.D. 7,724 ft.; sdtrkd.; T.D. 9,007 ft.; P.B. and sdtrkd.; T.D. 2,652 ft.; T. sd. 2,647 ft.; 7-in. csg. 2,647 ft.

M. H. Marr & G. H. Vaughn No. 1 Adam Terrebonne, Sec. 9-19s-22e. Drk.

M. H. Marr and G. H. Vaughn No. 1 B. &D. Unit, Sec. 12-19s-22e. T.D. 9,050 ft.; sdtrkd. 5,050 ft.; drld. to 8,453 ft.; P.B. 8,291 ft.; sdtrkd.; drlg. sh. 7,224 ft.

Martex Oil Co. No. 1-A Rebstock Community, Sec. 2-19s-22e. T.D. 8,504 ft.; 7-in. csg. 5,368 ft.; perf. csg. 5,309-17 ft.; I.P. 440 B.P.D.; ¼-in. ck. T.P. 850 lb.; C.P. 325 lb.

Martex Pet. Corp. No. 2 Falgout Holding Co., Sec. 9-19s-22e. T.D. 8,500 ft.; 7-in. csg. 8,500 ft.; perf. csg. 8,148-65 ft.; tstd. S.W.; perf. csg. 8,148-60 ft.; tstd. 2,500 lb. press. on D.S.T.; washing to bttm. to test.

St. Mary Oil Co.'s No. 2 Choust, Sec. 12-19s-22e. R.U.

St. Mary Oil Co.'s No. 1 Daniel Ledet, Sec. 9-19s-22e. Abd. loc.

St. Mary Oil Co.'s No. 1 Unit No. 7, Sec. 9-19s-22e. R.U.

Terouche Oil Co.'s No 1 Rudolph Cheramre, Sec. 12-9s-22e. Drlg. sdy. sh. 3,065 ft.

Texas Co. No. 1 E. L. Deramee, Sec. 12-19s-22e. Drlg. sh. 6,881 ft.

Texas Co. No. 1 Falgout Holding Co., Sec. 9-19s-22e. Cd. sd.&sdy. sh., S.O. 7,895-7,935 ft.; T.D. 7,945 ft.; 7-in. csg. 7,928 ft.

Texas Co. No. 2 L. L. & E. Golden Meadows, Sec. 78-19s-21e. T.D. 8,120 ft.; 7-in. csg. 8,120 ft.; perf. csg. 7,930-50 ft.; I.P. 577 B.P.D.; ¼-in. ck.

Texas Co. No. 2 La Terre, Sec. 6-20s-22e. Cd. O.S. 10,031-41 ft.; cg. shd.

Texas Co. No. 2 State-Catfish Lake, Sec. 3-20-21e. T.D. 10,250 ft.; 7⅝-in. csg. 2,903 ft.; drld. to 2,775 ft.; perf. 2,750-72 ft.; swbd. 50% oil; R.U. to pmp.

Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Loc.

Texas Co. No. 1 Theriot, Sec. 12-19s-21e. Drlg. sh. 2,560 ft.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. Drlg. sh. 8,860 ft.

Gulf Ref. Co. No. 3 State QQ, Sec. 31-19s-19e. Drlg. sh. 7,285 ft.

Texas Co. No. 1 State-Lookout Pass, Sec. 48-20s-18e. Loc.

Grand Lake—Cameron Parish

Amerada Pet. Corp. No. 1 Mallard Bay-State, Sec. 12-13s-4w. R.U.

Superior Oil Co.'s No. 3 State. R.U.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.

Gulf Oil Corp.'s No. 26-A M. P. Erwin, Sec. 13-12s-10w. Drk.

Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. T.D. 7,037 ft.; P.B. 5,704 ft.; sdtrkd.; 7-in. csg. 7,019 ft.

Superior Oil Co. No. 6 Benson-Vincent, Sec. 30-12s-10w. Drlg. sh. 6,420 ft.

Texas Co. No. 27-B State, 623 ft. S, and 5,142 ft. E of SE cor. Sec. 12-12s-10e, in Twp. 12s-9w. Drlg. sh. 4,230 ft.

Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. T.D. 8,064 ft.; P.B. 4,050 ft.; sdtrkd. 4,162 ft.; drlg. sh. 5,855 ft.

Jefferson Island—Iberia Parish

Phillips Pet. Co. No. 1 Breaux, Sec. 41-12s-5e. T.D. 8,461 ft.; P.B.; sdtrkd. 4,403 ft.; drlg. sh. 9,187 ft.

Texas Co.'s No. 3 Jefferson Salt Mining Co., Sec. 58-12s-5e. M.I.M.

Jennings—Acadia Parish

Carter-Perrin & Brian No. 1 Martel, Sec. 47-9s-2w. T.D. 1,916 ft.; 6-in. csg. 1,862 ft.; tstg.

Glassell-Glassell No. 8 Trusher, Sec. 42-9s-2w. Loc.

St. Mary Oil Co. No. 1 Gulf fee, Sec. 45-9s-2w. T.D. 1,741 ft.; S.D.; W.O.

Shell Oil Co., Inc., No. 7 Conover, Sec. 40-9s-2w. T.D. 7,190 ft.; 5½-in. csg. 7,166 ft.; W.O. D.P.

Stanolind O. & G. Co. No. 115 Crowley Oil & Min. Co., Sec. 48-9s-2w. R.U.

Lafitte—Jefferson Parish

Texas Co. No. 14 Lafitte, Sec. 20-17s-24e. Loc.

Texas Co. No. 2-B Madison Realty Co., Sec. 19-17s-24e. T.D. 10,093 ft.; tstg.

Texas Co.'s No. 11 Rigolet Cooperative Fur Co., Sec. 29-17s-24e. Drlg. sdy. sh. 6,378 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Basin Lv. Dist., Sec. 2-18-25e. T.D. 7,033 ft.; drlg. shd.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 10 State, 1,320 ft. N of No. 3, in Lake. T.D. 3,208 ft.; twisted off D.S.; sdtrkd. 2,940 ft.; drlg. sdy. sh. 5,685 ft.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. Drlg. sh. 10,373 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 26 State, Sec. 18-23s-18e. Salt 5,365 ft.; P.B. 3,790 ft.; sdtrd. 3,790 ft.; T.D. 5,102 ft.; 7-in. csg. 5,100 ft.; perf. csg. 5,000-50 ft.; I.P. 329 B.P.D.; ¼-in. ck.

Texas Co.'s No. 27 State, Sec. 7-23s-18e. 10¾-in. csg. 1,484 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.

New Iberia—Iberia Parish

Acadian Prod. Co. No. 1 Weeks-Sanders, Sec. 51-12s-7e. T.D. 1,277 ft.; 7-in. csg. 1,205 ft.; perf. csg. 1,205-10 ft.; R.U. to pmp.
Canal Oil Co. No. 13 Bernard, Sec. 54-12s-7e. T.D. 4,107 ft.; P.B.; sdtrkd.; drlg. sd.&sh. 3,260 ft.; no report.
Wm. Helis No. 9 Bolivar, Sec. 56-12s-7e. Drlg. sh. 2,936 ft.
Wm. Helis No. 7 J. E. Schwing, Sec. 56-12s-7e. Drlg. 6,712 ft.
Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co. No. 1 Frances Compton, Sec 71-12s-7e. Drlg. sdy. sh. 8,917 ft.; no report.
Texas Co. No. 10 J. P. Duke, Sec. 26-12s-7e. T.D. 3,071 ft.; 7-in. csg. 2,986 ft.; tstg.
Texas Co. No. 1 Anna B. Schwing, Sec 71-12s-7e. Drlg. sdy. L. 8,950 ft.; no report.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 2 Staker, Sec. 33-8s-1e. T.D. 8,580 ft.; T. sd. 8,564 ft.; 7-in. csg. 8,580 ft.; perf. csg. 8,576-78½ ft.; tstd. gas; fsg. for pkr.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 5 Klumpp, Sec. 7-7s-1w. T.D. 9,482 ft.; 5¼-in. csg. 9,195 ft.; well tried to blow out; pulling screen and lnr.

Paradis—St. Charles Parish

Texas Co. No. 2 L.L.&E. Paradis, Sec. 6-14s-20e. Bldg. foundation.

Port Barre—St. Landry Parish

Gulf Oil Corp.'s No. 15 Wilson & Cochran, Sec. 4-6s-5e. Loc.
Pan American Prod. Co. No. 7 Cormier Sec. 4-6s-5e. T.D. 4,933 ft.; P.B. 3,150 ft.; drlg. sh. 3,814 ft.
Pan American Prod. Co. No. 8 Cormier, Sec. 4-6s-5e. R.U.
Pan American Prod. Co. No. 3 Haas & Hirsch, Sec. 4-6s-5e. T.D. 7,020 ft.; D.S. stk.; P.B. 6,354 ft.; sdtrkd.; drlg. sh. 6,512 ft.
Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 39 Orleans Lvr Bd., Sec. 13-8s-15e. T.D. 8,103 ft.; 7-in. csg. 8,099 ft.
Humble O. & R. Co. No. 40 Orleans Lv. Bd., Sec. 13-18s-15e. Comp. canal to loc.

Quarantine Bay—Plaquemines Parish

Gulf Ref. Co. No. 5-A Orleans Lv. Bd., Sec. 7-19s-17e. Drlg. sh. 6,900 ft.
Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.
Gulf Oil Corp. No. 13 State, Sec. 8-19s-17e. Drlg. sd., sh.&shls. 8,036 ft.

Sorrento—Ascension Parish

Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. Drlg. sh. 1,669 ft.

South Houma—Terrebonne Parish

Shell Oil Co., Inc., No. 1 Duplantis, Sec. 74-18s-18e. Drlg. sh. 10,101 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 2 Calcasieu Natl. Bnk., Sec. 35-10s-4w. Drlg. sd. 750 ft.
Union Sulphur Co. No. 1 Joe Sturdivant, Sec. 36-10s-4w. Drlg. sh.&L. 9,176 ft.

Starks—Calcasieu Parish

Skelly Oil Co. No. 1 Industrial Lbr. Co., Sec. 20-9s-12w. T.D. 5,350 ft.; P.B. 2,100 ft.; sdtrkd.; T.D. 4,585 ft.; abd.

Valentine—La Fourche Parish

Pan American Prod. Co. No. 3 Ducas-Abribat. Drlg. sh. 2,841 ft.
Pan American Prod. Co.'s No. 21 Harang, Sec. 9-17s-20e. Loc.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co.'s No. 6 Buras Lv. Bd., Sec. 27-21s-30e. Loc.
Tide Water Asso. Oil Co. No. 10 Manhattan Ld. & Fruit Co., Sec 26-21s-30e. T.D. 7,615 ft.; 7-in. csg. 7,584 ft.; cd. oil sd. 7,475-7,535 ft.; flwd. 35 B.O. in 3 hrs.; ¼-in. ck.; S.I.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Bertha Fontenot, Sec. 47-3s-2e. T.D. 9,067 ft.; I.P. 306 bbl., 18 hrs.; ¼-in. ck.
Continental Oil Co. No. 2 Corell, Sec. 36-3s-2e. Drlg. sh. 4,987 ft.
Continental Oil Co. No. 4 Ludeau-Haas, Sec. 45-3s-2e. T.D. 9,035 ft.; no report.
Continental Oil Co. No. 4 Opelousas St. Landry Security Co., Sec. 44-3s-2e. T.D. 9,085 ft.; comp.; no report.
Continental Oil Co. No. 3 Pitre, Sec. 44-3s-2e. Drlg. sh. 8,956 ft.; no report.
Continental Oil Co. No. 4 Vidrine, Sec. 46-3s-2e. Drlg. sh. 8,798 ft.; no report.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 3 J. B. Ferguson, Sec. 5-12s-2w. 9⅝-in. csg. 1,779 ft.; T.D. 7,164 ft.; 7-in. csg. on bttm.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc., No. 1 Michel, Sec. 1-14s-12e. Cg. sh. 7,445 ft.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. T.D. 9,253 ft.; fsg.
Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. T.D. 9,500 ft.; P.B. 8,612 ft.; sdtrkd.; T.D. 8,905 ft.; 7-in. csg. 8,905 ft.; drlg. 9,488 ft.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.

S. LOUISIANA WILDCATS

Acadia Parish

Mareaux Oil Corp. No. 2 J. E. Settig, Sec. 17-7s-1w. T.D. 1,180 ft.; S.D.
Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Allen Parish

Bel Oil Co. No. 2 J. A. Bell Est. (Blue Springs). Drk.

Avoyelles Parish

C. B. Bunte No. 1 Hines Tie & Timber Co., Sec. 24-3n-2e. 10-in. csg. 475 ft. drlg. sh. 3,020 ft.
G. C Koch et al No. 1 Purdy Hess Lbr. Co., Sec. 25-2n-3e. O.W.D.D.; T.D. 6,054 ft.; W.O. rig.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.

Calcasieu Parish

La.-Gulf Coast Drlg. Co. No. 1 Langdon, Sec. 13-10s-13w. S.D. 1,400 ft.
Humble O. & R. Co. No. 2 Edgewood, Sec. 32-7s-10w. Drlg. 1,937 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. Cd. sd., sdy. sh. S.S.O.; drlg. sh. 10,409 ft.

Jefferson Parish

California Co. No. 1 Adam Rutley, Sec. 2-16s-23e. 20-in. csg. 163 ft.; 13⅜-in. csg. 1,980 ft.
Continental Oil Co. No. 1 Bernstein, Sec. 2-16s-23e. Bldg. drk.

Jeff Davis Parish

Union Sulphur Co. No. 2 H. B Tietje, Sec. 36-2s-4w. Drlg. sh. 9,120 ft.

La Fourche Parish

Gulf Oil Corp. No. 2 Grandison, Sec. 21-20s-23e. R.U.
J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. T.D. 10,515 ft.; run 5-in. csg.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. Canal comp.

Livingston Parish

Fowler & Tower No. 1 Ellis Hood, Sec. 37-7s-3e. Sh. 8,000 ft. (C.D.); abd.
Humble O. & R. Co.'s No. 1 Great Southern Lbr. Co., Sec. 27-7s-5e. Drk.

Orleans Parish

W. T. Burton No. 3-B Faubourg de Montjuzin, Sec. 1-11s-13e. T.D. 10,425 ft.; abd.
W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 10,394 ft.; 5½-in. csg. 10,274 ft.; perf. csg. 10,164-69 ft.; swbd. wash wtr.; drld. out to T.D. 10,300 ft.; perf. csg. 10,285-94 ft.; swbd. S.W.; P.B. 10,175 ft.; swbd. oil and showed little gas; prep. to reperf.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Loc.
W. T. Burton No. 3 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.
W. T. Burton No. 4 State-Lake Pontchartrain, Sec. 18-11s-15e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. 13⅜-in. csg. 1,949 ft.; drlg. sh. &L. 5,575 ft.
Texas Co. No. 1 State-Bastian Bay, Sec. 43-20s-28e. 10¾-in. csg. 1,924 ft.; drlg. sdy. sh. 5,777 ft.

Rapides Parish

Thos. D. Humphrey No. 1 J. J. Krejzl, Sec. 41-4n-2e. S.D. 1,514 ft.
Smith & Aarnes No. 1 Eota Realty, Sec. 12-4n-3e. Drk.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.
Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,706 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; milling on csg. 10,225 ft.

St. John the Baptist Parish

Pan American Prod. Co. No. 1 Mill, Sec. 12-11s-7e (LaPlace prospect). R.U.

St. Martin Parish

Housh & Thompson No. 1 Emile Le Doux, Sec. 57-11s-6e. Drlg. sdy. sh. 6,310 ft.
Shell Oil Co., Inc., No. 1 Iberville Ld. Co., Sec. 86-8s-7s. Spd.
Texas Co. No. 12 St. Martin, Sec. 21-8s-7e. Drlg. sh. 9,067 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

St. Tammany Parish

Honey Island Dev. Corp. No. 1 W. C. Forbes, Sec. 33-7s-15e. T.D. 100 ft.; 20-in. csg. 87 ft.

Terrebonne Parish

Continental Oil Co. et al's No. 1 Peters, Sec. 32-19s-15e. Loc.
Shell Oil Co., Inc., No. 1-A Peters, Sec. 47-19s-19e. Drlg. sd.&sh. 1,203 ft.
Texas Co. No. 3 State-Coon Point, Twp. 23s-14e. Bldg. foundation.

Vernon Parish

W. T. Burton No. 1 W. T. Burton Mineral fee, Sec. 32-1n-6w. No report.
Nat Hunter et al No. 1 W. T. Burton fee, Sec. 13-2n-5w. Drlg. sh. 6,100 ft.

West Feliciana Parish

McKay et al No. 1 James Montgomery. T.D. 8,505 ft.; abd.; T. Wlx. approx. 7,700 ft.

TEXAS

Week Ending August 26

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 6 Armstrong-fee, Folly-Chance Sur. Drlg. sh. &L. 5,720 ft.
Harrison & Abercrombie No. 2 Augsburger, Chas. Breen Sur. Drlg. sd.&sh. 8,967 ft.
Harrison & Abercrombie No. 1 Grimes, C. Breen Sur. Drlg. sh. 9,620 ft.
Mid-Continent Pet. Corp. No. 2 Chenault, C. Breen Sur. Drlg. sh. 10,120 ft.
Sun Oil Co. No. 2 Borsodi, C. Breen Sur. Drlg. sh.&L. 6,036 ft.
Sun Oil Co. No. 2 Campbell, Chas. Breen Sur. Drlg. sh.&sd. 10,008 ft.

West Columbia—Brazoria County

Mike Hogg No. 3 Hogg-Hamman, Martin Varner Sur. T.D. 1,915 ft.; well sanded up; C.O.

Cedar Point—Chambers County

Standard Oil Co. of Texas' No. 55-118 State. R.U.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 State, Tr. No. 39. 13⅜-in. csg. 118 ft.; T.D. 6,420 ft., sh.
Stanolind O. & G. Co. No. 1 H. C. Wilcox, Jamieson Sur. Drlg. sh.&L. 4,839 ft.

Garwood—Colorado County

Davis & Co., Inc., No. 1 J. R. McLane, I.&G.N. Sur. No. 41. T.D. 1,705 ft.; run 10¾-in. csg.

Big Creek—Fort Bend County

Merrimac Oil Corp. No. 1 George, B. Wickson Sur. (SW flank). Spd.; comp. R.U.

Thompson—Fort Bend County

J. H. Blaffer No. 1 Davis, Robt. Peebles Sur. Spd.

Caplen—Galveston County

Sun Oil Co. No. 1 Zinn & Forman, S. F. Hughes Sur. Drlg. sh. 5,673 ft.

Dickinson—Galveston County

Pure Oil Co. No. 1 R. S. Wooten Est., T. W. Johnson Sur. (S. Dickinson area.) Cg. sh. 8,310 ft.

League City—Galveston County

Phillips Pet. Co. No. 5 Bertha Lobit Wilson, Perry Austin Sur. T.D. 9,345 ft.; T.D. 9,345 ft.; cmtd. 7-in. csg. 9,340 ft.; perf. csg. 9,226-31 ft.; tstg.
Phillips Pet. Co. No. 1 Dugan, S. F. Austin Sur. Cg. sh. 10,210 ft.
Phillips Pet. Co. No. 1 Dr. O. Patton (1 mi. E of production). Perf. csg. 9,177-97 ft.; tstg.
Phillips Pet. Co.'s No. 3 Stewart Title Guaranty Co., S. F. Austin Sur. R.U.
Phillips Pet. Co. No. 3 Lobit Wilson, Perry & Austin Sur. T.D. 9,310 ft.; 5½-in. csg. on bttm.; perf. 9,258-60 ft.; flwd. 87 B.F., 20% oil, 80% S.W.; 13 hrs.; ¼-in. ck.; T.P. 700 lb.; C.P. 1,700 lb.; killed and sqzd.; reperf. csg. 9,256-58 ft.; I.P. 204 B.P.D.; ¼-in. ck.
Phillips Pet. Co. No. 1 Wimhurst (NW extension). Drlg. sh. 8,436 ft.

Bammel—Harris County

H. M. Harrell's No. 1 Lillian B. Polley, C. G. McLean Sur. Spd.

Clear Lake—Harris County

Humble O. & R. Co. No. 14-C Humble-West, J. Lindsay Sur. Loc.
Humble O. & R. Co.'s No. 18-C Humble-West, J. Roth Sur. Drlg. sh. 5,669 ft.
Humble O. & R. Co. No. 5 J. C. Hutcheson, Wm. Doble Sur. Drlg. sh. 3,586 ft.

Clinton—Harris County

International Pet. Corp.'s No. 1 J. B. Means, Patrick Reels, John Trobough Sur. Loc.
Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.

Fairbanks—Harris County

Stanolind O. & G. Co. No. 1 Schumacher, S. Lewis Sur. 10¾-in. csg. 1,245 ft.; T.D. 7,350 ft.; abd.
Union Prod. Co. No. 1 H. H. Rudley, T. M. Dorsett Sur. (North Houston area). Cmtd. 13⅜-in. csg. 1,477 ft.; rec. oil and brksh. wtr. on D.S.T. 7,015-24 ft.; tstd. S.W. and gas 7,016-24 ft.; T.D. 7,251 ft.
Union Prod. Co. No. 10 Whitehead-Rash-Phillips, Wiley S. Powell Sur. Cg. sh. 7,178 ft.

Friendswood—Harris County

Humble O. & R. Co. No. 2 Anderson, T. Choate Sur. T.D. 6,047 ft.; run csg.
Humble O. & R. Co. No. 3 J. D. Owens, T. Choate Sur. T.D. 6,045 ft.; T.S. 5,650 ft.; comp.; no ga.
Humble O. & R. Co.'s No. 15 West Prod., L. Hemenway Sur. Drlg. sh. 1,536 ft.

South Houston—Harris County

Stanolind O. & G. Co. (Commerce) No. 1 O. R. Staiti, Callahan & Vince Sur. T.D. 7,572 ft.; cmtd. 7-in. protection csg.; T.D. 9,470 ft.; rmg.

Vanderbilt-West Ranch—Jackson County

Humble O. & R. Co. No. 1 Vanderbilt-State. T.D. 5,674 ft.; perf. csg. 5,500-05 ft.; comp.; no ga.; S.I.
Magnolia Pet. Co. No. 15 West. T.D. 5, 535½ ft.

Fannett—Jefferson County

Gulf Oil Corp.'s No. 12 Burrell, W. H. Smith Sur. Loc.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. T.D. 8,710 ft.; perf. csg. 8,685-90 ft.; flwd. S.W.; made sqze. job.

Lovells Lake—Jefferson County

Humble O. & R. Co. No. 6 Broussard, M. Grange Sur. T.D. 7,795 ft.; 5½-in. csg. 7,783 ft.; comp.; S.I.; no ga.
Humble O. & R. Co. No. 3 Todd, Wm. Carr Sur. Drlg. 7,820 ft.
Humble O. & R. Co. No. 2 W. C. Turner, Wm. Carr Sur. Rigging.
Shell Oil Co., Inc., No. 2 Pleasant, C. Hillebrandt Sur. Cg. 7,710 ft.
Stanolind O. & G. Co.'s No. 1 B. A. Steinhagen, Wm. Carr Sur. Loc.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 6 Phelan, H.T.&.B Sur. No. 1. T.D. 8,277 ft.; abd.

South China—Jefferson County

Geo. Echols et al No. 2 Fontenot, H.T.& B. Sur. No. 17. T.D. 7,939 ft.; cmtd. 5½-in. csg. 7,935 ft.; drld. out to 7,906 ft.; perf. 7,868-79 ft.; 30-min. D.S.T. 7,860-7,906 ft.; ¼-in. cks.; flwd. gas, oil, mud, and S.W.; recvd. 54 thrlb. oil; 19 thrlb. mud and wtr.; perf. csg. 7,868-75 ft.; flwd. 100 bbl. fluid, 60% S.W.; went dead; sqzd. perf.; W.O.C.; perf. csg. 7,869-74 ft.; swbg. 90% wash wtr., 10% oil; perf. csg. 6,689-95 ft.; swbd. S.W.; abd.
Magnolia Pet. Co. No. 1 Broussard, H.& T.C. Sur., Sec. 18. T.D. 7,826 ft.; run 7-in. csg. to test oil sd. 7,795-7,807 ft.

Esperson—Liberty County

General Crude Oil Co. No. 4-B Esperson, A. McNeil Sur. T.D. 7,608 ft.; P.B. 7,318 ft.
General Crude Oil Co. No. 5-B Esperson, A. McNeil Sur. Cd. oil sd. 7,428-7,648 ft.; T.D. 7,680 ft.; 5½-in. csg. on bttm.; perf. csg. 7,430-7,600 ft.; I.P. 858 B.P.D.; ¼-in. ck.
General Crude Oil Co.'s No. 6-B Esperson, A. McNeil Sur. Spd.
General Crude Oil Co.'s No. 8-B Esperson, A. McNeil Sur. Loc.

Hardin—Liberty County

Atlantic Ref. Co. No. 2 Rives, A. B. Hardin Sur. T.D. 7,654 ft.; 7-in. csg. 7,654 ft.; tstg.
Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.
Humble O. & R. Co. No. 6-B Partlow, H. B. Johnston Sur. Drk.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). Drlg. sh. 5,786 ft.

Martha—Liberty County

Stanolind O. & G. Co. No. 1 C. F. Seaberg, I.&G.N. Sur. No. 7. Cd. oil sd. 8,085-92 ft.; sh.&sd. gas odor 8,092-8,114 ft., T.D.; run csg.

Hamman—Matagorda County

Atlantic Ref. Co. No. 1 Glover, J. T. Belknap Sur. (east extension). T.D. 9,358 ft.; perf. csg. 9,180-9,210 ft.; flwd. dist.; started making S.W.; sqzd. to reperf.; tstg.
J. M. Copeland No. 1 G. L. Butler, J. T. Belknap Sur. Loc.

Van Vleck—Matagorda County

Skelly Oil Co. No. 5 Henry Rugeley, I.&G.N. Sur. T.D. 7,529 ft.

Orange—Orange County

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Port Neches—Orange County

Texas Co. No. 16 Kuhn, M. E. Hall Sur. R.U.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thompson Sur. Loc.
Shell Oil Co., Inc.'s No. 1 Kirby-West Lbr. Co., G. S. Thomas Sur. R.U.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp.'s No. 1 W. G. Wing, I.&G.N. Sur. No. 15. Drlg. sh. 6,720 ft.
Gulf Oil Corp.'s No. 20 Wing, I.&G.N. Sur. No. 14. Drlg. sh. 1,530 ft.
Humble O. & R. Co. No. 13-B Kirby Lbr. Co., P. Garcia Sur. T.D. 8,192 ft.; comp.; S.I.; no ga.
Humble O. & R. Co. No. 15-B Kirby Lbr. Co., P. Garcia Sur. Drlg. sh. 3,310 ft.

Spurger—Tyler County

Republic Prod. Co. No. 22 fee, N. Hurd Lge. T.D. 9,014 ft.; 7-in. csg. 7,770 ft.; perf. csg. 7,698-7,708 ft.; comp.; no ga. S.I.; due to S.D.
Republic Prod. Co.'s No. 24 fee, N. Hurd Sur. R.U.

Withers-Magnet—Wharton County

Humble O. & R. Co. No. 18 Cockburn, S. Castleman Sur. T.D. 5,543 ft.; W. O.C.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound). M.I.M.
Hamman Expltn. Co. No. 1-B Darrington, State Prison Farm, F. Bingham Sur. Rig.
Glenn McCarthy's No. 1 J. C. Carr, J. D. Valderas Sur. Drlg. sh. 9,997 ft.
Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and E. Austin Sur. No. 7. T.D. 10,380 ft.; set 7-in. csg.; well is reported to be showing oil under small gas pressure; no details.

LEGAL

United States Department of the Interior, General Land Office, Washington, D. C. Notice is hereby given that leases of the oil and gas deposits in the following lands in the State of Louisiana are offered to the responsible qualified bidder of the highest bonus per acre, pursuant to the provisions of section 17 of the leasing act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate scale in the lease form shown in circular 1386, at a sale to be held in the Federal Court Room, Post Office Building, Shreveport, Louisiana, at 10:00 o'clock on September 27, 1939: Carterville field, lot 2 Sec. 2, lot 4 Sec. 4 and lots 3 and 4 Sec. 5, T. 22 N., R 11 W., SE¼ NW¼ Sec. 31, T. 23 N., R. 11 W., La.M., 99.77 acres; Rodessa oil and gas field, SW¼ NE¼ Sec. 2, T. 23 N., R. 16 W., La.M., 27.96 acres; Simsboro gas field, E½ NW¼ Sec. 9, T. 17 N., R. 4 W., La.M., 80 acres; Shongaloo oil and gas field, NE¼ SW¼ Sec. 7, T. 22 N., R. 9 W., La.M., 38.42 acres; Lake Bistineau gas field, S½ SW¼ Sec. 18, NW¼ SE¼ Sec. 22, T. 16 N., R. 10 W., La.M., 120 acres; Elm Grove oil and gas field, lots 6, 7 and 8 Sec. 36, T. 16 N., R. 12 W., La.M., 48.52 acres; Pine Island oil field, E½ NE¼ Sec. 10, T. 21 N., R. 15 W., La.M., 79.94 acres; Vivian oil and gas field, SE¼ SE¼ Sec. 28, T. 22 N., R. 15 W., La.M., 39.98 acres; Caddo oil and gas field, Unit No. 1—S½ NE¼, W½ SE¼ Sec. 31, T. 20 N., R. 15 W., 160 acres, Unit No. 2—lot 3 Sec. 3, lots 3, 4, 5, Sec. 4, T. 20 N., R. 16 W., 37.79 acres, Unit No. 3—lots 5 and 6 Sec. 9, lots 7, 9, 10 Sec. 10, lots 1 and 2 Sec. 15, lot 1 Sec. 16, T. 20 N., R. 16 W., 176.20 acres, Unit No. 4—lot 1 Sec. 12, lot 1 Sec. 13, T. 20 N., R. 16 W., 49.69 acres, Unit No. 5—Sec. 20, all (fractional), T. 20 N., R. 16 W., 37.83 acres, Unit No. 6—lots 1 and 3 Sec. 32, T. 20 N., R. 16 W., 91.56 acres, Unit No. 7—lot 1 Sec. 25, lots 1 and 2 Sec. 36, T. 20 N., R. 16 W., 22.71 acres, Unit No. 8—SE¼ Sec. 9, T. 21 N., R. 16 W., 160.20 acres, Unit No. 9—E½ SE¼ Sec. 11, N½ SW¼, NW¼ SE¼ Sec. 12, T. 21 N., R. 16 W., 200.44 acres, all La.M. Two or more units may be consolidated in a single lease to the same qualified bidder, provided the acreage does not exceed the maximum prescribed by law. The successful bidder must deposit on the day of the sale a certified check on a solvent bank, or cash, for one-fifth of the amount of each bid and file the showing of qualifications to receive a lease required by section 7 of General Land Office Circular 1386. The remaining four-fifths, together with the annual rental in advance at the rate of $1 per acre, must be paid, and a $5000 corporate surety bond must be furnished, prior to the issuance of the lease. The bidders are warned against violation of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. (Sgn) Fred W. Johnson, Commissioner.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Edwards Drlg. Co.'s No. 1 Sloan, G. B. Jamison Sur., Turtle Bay extension area. Loc.
Salt Dome Oil Corp. No. 1 Ira R. Williams, James Grant Sur. (Cotton Lake area). T.D. 6,515 ft.; sd. S.O.; run csg.
J. R. Turnbull et al No. 1 W. C. Shepherd, R. A. Porter Sur. T.D. 6,466 ft.; 7-in. csg. 6,429 ft.; flwd. oil, gas, and wash wtr.; sanded up; sdtrkd. 6,463 ft.; drlg. sh. 6,615 ft.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.
Strake Pet. Co. No. 1 Ned Burford, E. Tumlinson Sur. 10¾-in. csg. 998 ft.; drlg. plug.

Fort Bend County

J. H. Blaffer No. 1 J. H. P. Davis, R. Peebles Sur., S flank Thompson field. S.D. 2,100 ft.
H. C. Cockburn No. 1 Dzierzanowski, Emma Meyer Sur. No. 8. R.U.
H. R. Cullen No. 1 Booth. Wickson Sur., S flank Big Creek. Drlg. sh. 5,076 ft.
Lloyd Farr et al No. 1 Beard, H.&T.C. Sur. No. 118. T.D. 1,845 ft.; rmg.
R. N. Ranger No. 1 Basset Blakeley, Thos. Habermacher Sur. D.S.T. 7,200-19 ft.; tstd. S.W.; T.D. 8,017 ft.; abd.
Superior Oil Co. No. 1 Kelso, G. Barth Sur. Drlg. sh. 4,912 ft.
Woodland Oil Co. No. 1 Herietta Berg et al, H.&T.C. Sur., Sec. 25. T.D. 7,410 ft.; 9⅝-in. csg. 7,391 ft.; P.B. 7,269 ft.; top junk 7,248 ft.; set whpstk. 7,239½-47 ft.; unable to sdtrk.; T.A.

Galveston County

Sun Oil Co. No 1 State, East Galveston Bay. T.D. 8,355 ft.; made elec. survey; abd.

Harris County

Selby O. & G. Co. No. 1 East Texas Oil Co., Victor Blanco Sur. 10¾-in. csg. 1,495 ft.; drlg. sh. 3,220 ft.
L. R Wilhite et al No. 1 Houston-Harris Co. Ship Channel, Nav. dist., Ezekiel Thomas Sur. 13-in. csg. 388 ft.

Jackson County

Cron & Gracey's No. 2 Heard, M.&C. Sur. No. 13. Drlg. sh. 3,207 ft.
Moore & Ahern No. 1 Victoria Ld. & Loan Co., P. Scott Sur. T.D. 7,010 ft.; cmtd. 5-in. csg. 5,800 ft.; P.B. 5,740 ft.; perf. 5,705-08 ft.; flwd. gas with dist. odor and some wash wtr.; ¼-in. ck.; T.P. 2,050 lb.; C.P. 2,325 lb.; S.I. for tanks and separator; prep. to make pot. test; flwd. 10 bbl. 52-gr. dist. per day; ¼-in. ck.; T.P. 2,010 lb.; C.P. 2,300 lb.

Jasper County

Bob Milner et al No. 1 Cartwright, E. O. LeGrande Sur. D.S. stk. 7,113 ft.; P.B 6,920 ft.; sdtrkd. between 6,880-6,907 ft.; T.D. 7,759 ft.; abd.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.

Montgomery County

A. T. Grabowski et al's No. 1 Gay, Wm. Landrum Sur. Drk.

Orange County

American Eagle Oil Co. No. 2 Geo. Pell, Geo. A. Patillo Sur. Loc.

Polk County

Patrick-Tyrell Drlg. Co. No. 1 O. L. Jackson, C. Devore Sur. Loc.

San Jacinto County

F. J. Hynes No. 1 Foster Lbr. Co., M. Brown Sur. Rig.
F. J. Hynes No. 2 Foster Lbr. Co., M. Finch Sur. Loc.

Trinity County

W. B. Gossage No. 1 Trinity State Bnk., B. F. Wright Sur. R.U.

Tyler County

J. C. Bonham No. 3 Kountze, E. Smith Sur. (1 mi. NE of Rockland). R.U.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. M.I.R.

Wharton County

Humble O. & R. Co.'s No. 1 Joe Schwartz, T. M. Blake Sur. Loc.
Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.
W. Stewart Boyle et al's No. 1 Britton, F. Page Sur., N of Louise field. R.U.
Texas Co. No. 1 C. Peters, E.T.R.R. Sur. No. 101 (Hilje area). 10¾-in. csg. 1,163 ft.; T.D. 5,300 ft.; run 5½-in. csg.; 11-min. D.S.T. 5,231-59 ft.; tstd. 590 lb. press.; rec. 180 ft. fluid, 90 ft. oil, 90 ft. S.W., trace of oil.

S. W. TEXAS WILDCATS

Bastrop County

Ralph Ogden No. 1 Wolf, S. Wolfenberger Sur. No. 18. S.D. 685 ft.

Bee County

Gust Tseemelis No. 1 O. F. West, James Douglass Sur. Cg. 5,680 ft.

Bell County

G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

E. D. Harris No. 1 Schroeder, Luke Bust Sur. No. 37. T.D. 1,003 ft.; abd.
S.K.&C. Prod. Co. No. 1 Barker, J. M. Bererra Sur., Sec. 58. Drlg. 318 ft.; no report.
J. A. Tarver's No. 1 Florence Lam, Manuel de Luna Sur. No. 3. S.D. 450 ft.

Caldwell County

Adams & Lyles et al No. 1 Campbell, Gideon Pace Sur. T.D. 1,801 ft.; 5½ in. csg. 1,801 ft.; perf. csg. 1,764½-80 ft.; pmpd. 15 B.F.P.D.; abd.

Calhoun County

Continental Oil Co. No. 1 Betty Rosen, Juan Carro Lge. (2½ mi. W of Indianola). Drlg. sh. 3,820 ft.
Coronado Corp. No. 1 K. Welder, Hidalgo Sur., 3 mi. SE Seadrift. Rig.

De Witt County

Marshall Purvis No. 1 Afflerback, L. W. Criswell Sur. Drlg. sh. 5,315 ft.

Duval County

W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Clark & Cowden's No. 1 Lucille Gruy, N. Gussett Sur. No. 28. T.D. 45 ft.
Sam Cunningham et al's No. 1 E. A. Lopez, P. Caballero Sur., Sec. 14. R.U.
Hiawatha O. & G. Co. No. 16 Southland Life Ins. Co., Santos Flores (Southland field). Cd. sd. 4,467-4,715 ft.; T.D. 5,923 ft.; tstd. gas on D.S.T. 5,284-5,310 ft.
Howell & Hawkins No. 1 V. Garcia, C. I. Co. Sur. No. 572 (Chiltipin area). T. sd. 4,749 ft.; T.D. 4,860 ft.; 5½-in. csg 4,849 ft.; perf. csg. 4,802-15 ft.; flwg. gas.
Milam Drlg. Co. No. 1 John Dinn, J. Morales Sur. T.D. 2,603 ft.; abd.
G. L. Rowsey et al No. 1 Parr. S.A.&M. G.R.R. Sur., Sec. 117. Drlg. sh. 3,490 ft.
South Coast Oil Corp., et al's No. 1 F. G. Garcia, H.&G.N. Sur. Loc.
Standard Oil Co. of Texas' No. 1 Jack Casey, San Pedro de Charco Redondo gr. Loc.
Taylor Ref. Co. No. 1 Parr, S.A.&M.G. Sur. No. 117. Cg. 1,560 ft.

Edwards County

R. G. Mitchell No. 2 Turney, C.C.S.D. and R.G.N.G. Sur., Sec. 164. T.D. 416 ft.; no report.

Falls County

M. A. Hays No. 1 Wooten, James Powell Sur. T.D. 2,138 ft.; 4-in. lnr. on bttm.; tstg.
J. Shaunfield No. 1 Barganier, J. M. Graham Sur. T.D. 1,195 ft.; Buda L.; S.S.O.; waiting on csg.

Goliad County

D. C. Matthews et al's No. 1 G. J. Swickheimer, Cuadrilla Irrg. Sur. R.U.
John Mayo No. 1 Swickheimer, Sec. 20, Cuadrillo subd., Wm. Patterson Sur. 9 mi. E of Goliad). Loc.

Gonzales County

E. E. Young No. 1 Moore, D. O. Warren Sur. Rig.

Guadalupe County

Burton-Garvin & Womack's No. 2 Henry Well, E. de Los Santos Coy Sur. No. 93. R.U.
Dees et al No. 1 Broadnax, John C. King Sur. Drlg. sh. 746 ft.

Hays County

B. C. Mann et al No. 1 Reeder, R. Vaughn Sur. Drlg. 1,206 ft.

Hidalgo County

San Juan Oil Co. No. 1 J. C. Kelly, J. C. Kelly subd., Antonio Velasco Sur., Porc. 70. Rig.

Jim Hogg County

Imperial Oil Co. No. 1 Jose M. Gutierrez, H. Rodriques Sur. No. 142. S.D. 950 ft.; T.A.
Magnolia Pet. Co. No. 1 Ysaquirre et al, "Agua Nueva de Abajo." J. M. Ramirez Sur. T.D. 5,864 ft.; abd.

Jim Wells County

Austin Pet. Co. No. 1 H. M. Reed (8 mi. NW Orange Grove), J. Poitevent Sur. Cmtd. surf. pipe 190 ft.; drlg. sh. 3,760 ft.
Loring Bradstreet No. 1 Rehment, Lot 12, Morro Phillips Sur. Drlg. sh. 4,530 ft.
Heyser & Heard No. 1 Clara Driscoll, La Anima Solo gr. (SW of Ben Bolt). Cg. sd. 6,770 ft.
Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. 7-in. csg. 6,811 ft.; drlg. sdy. sh.&L. 6,944 ft.
Magnolia Pet. Co.'s No. 1 E. H. Stolze et al, Los Olmos y Loma Blanca gr., Lot 16, Blk. 10. Loc.
W. R. Quinn et al No. 1 D. M. and Frits Pundt, T. C. Wright Sur. T.D. 5,415 ft.; P.B. 4,810 ft.; perf. 4,803-08 ft.; tstd. 15 bbl. dist. per day; ¼-in. ck.; T.P. 1,725 lb.; C.P. 1,875 lb.; perf. csg. 4,809-13 ft.; flwd. dist.; killed; perf. csg. 4,803-09 ft.; I.P. 8½ bbl., 47.2-gr. oil per day; ⅛-in. ck.; C.P. 1,800 lb.; T.P. 1,650 lb.
Royal O. & G. Co.'s No. 1 P. Garcia, La Trinidad gr. M.I.R.

Karnes County

Paul Meador No. 1 Ruhman, J. Richardson Sur. T.D. 3,254 ft.; abd.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 714 ft.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D. Lloyd Sur. S.D. 135 ft.
C. H. Wolff & M. C. Moore No. 1 W. J. Wilkinson, Brook & Burleson Sur., Sec. 24. R.U.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Pmpd. 100 B.F.; 36 hrs.; 3 bbl. oily emulsion; cd. L. 6,461-90 ft.; T.D. 6,571 ft.; S.D.

Live Oak County

Henderson Coquat No. 1 W. H. Moss, J. M. Manning Sur. No. 40. T.D. 1,746 ft.; abd.
Salviejo Oil Co. No. 1 Reser, Amos Moore Sur. Sd. 2,128-48 ft.; cmtd. 7-in. csg. 2,129 ft.; T.D. 3,010 ft.; run lnr. to approx. 2,900 ft.; perf. csg. 2,478-83 ft.; rec. 440 ft. drlg. wtr. and S.W.; press. built up to 1,000 lb.; S.D.
L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, James Garner Sur. S.D. 43 ft.

Medina County

Elstone Oil Co.'s No. 1 Wm. Mann, J. Campbell Sur. No. 24. R.U.

Milam County

M. B. Cloud et al No. 1 Henniger, S. C. Robertson Sur. (4 mi. NW of Rockdale). Cmtd. 10-in. 21 ft.; T.D. 3,145 ft.; abd.

Nueces County

Joe W. Cosner No. 1 S. F. Lehman, Laureles Farm subd., Sec. 11. T.D. 6,011 ft.; abd.
John Manley et al No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
Premont Pet. Co.'s No. 1 G. A. Langham, Los Sauces gr., Lot 12, Sec. 25. Spd.
Renwar Oil Corp. et al's No. 1 J. B. Knight, Sec. 175, Palo Alto gr. 10¾-in. csg. 1,007 ft.; drlg. sh. 5,288 ft.
Renwar Oil Corp. No. 1 Wright, J. V. L. De Herrera gr. (Riverside area). Drk.
Shield Oil Co. No. 1 Magee, Blk. 10 Driscoll ranch, Geo. Paul subd. T.D. 7,089 ft.; 7-in. csg. 5,582 ft.; perf. 5,565-72 ft.; tstd. dry gas; sqzd.; perf. csg. 5,559-68 ft.; flwg. 2½ B.P.H.; ¼-in. ck killed; reperf. csg. 5,560-66 ft.; flwg. 2 B.P.H.; 5/64-in. ck.; tstg.
Texas Conservative Oil Co. No. 1 J. B. Rutland, Geo. H. Pauls subd. of Driscoll ranch. Tstd. S.W. on D.S.T. 6,696-6,715 ft.; S.D.
Union Prod. Co. No. 1 W. H. Wallace, Sec. 88, Pauls subd. 9⅝-in. csg. 5,510 ft.; drlg. sh. 6,613 ft.

Refugio County

Humble O. & R. Co.'s No. 5 Thomson, Maximo Gomez Sur. Drlg. sh. 2,830 ft.
Norsworthy Prod. Co. No. 1 Wood, John Sinnott Sur. Drlg. 3,430 ft.

LEGAL

United States Department of the Interior, General Land Office, Washington, D. C. Notice is hereby given that the 1913.99 acres in the producing Hugoton gas field in Ts. 31 and 32, R. 38; Ts. 32 and 35, R. 39; Ts. 32 and 33, R. 40, all south and west of the 6th P.M., Kansas, in Stevens and Morton Counties, and in T. 4., Rs. 14 and 15; Ts. 3, 4 and 6, R. 16, all north and east of C.M., Oklahoma, in Texas County; and 520 acres in the Holcomb gas field described as the SW¼ NE¼ Sec. 3, SW¼ Sec. 12 and N½ Sec. 15, T. 26 S., R. 35 W., 6th P.M., Kansas, are offered to the qualified bidder of the highest amount offered per acre as a bonus for a lease to the oil and gas deposits belonging to the United States, pursuant to Section 17 of the act of February 25, 1920 (41 Stat. 437), as amended by the act of August 21, 1935 (49 Stat. 674), at the royalty rate shown in the lease form in General Land Office circular 1386. Sealed bids are to be submitted to the Secretary of the Interior, Washington, D. C., the envelope to be marked plainly "Bid—Hugoton and Holcomb gas fields lease sale," on or before noon on September 27, 1939. Full particulars governing the sale and conditions upon which the leases will be issued may be secured from the Commissioner of the General Land Office, Washington, D. C. The bid must describe the land and be accompanied by a certified check upon a solvent bank, or cash, for one-fifth of the amount of each bid, and a showing that the bidder is qualified to receive a lease (see section 7 of circular 1386). The remaining four-fifths of the bid, together with the annual rental in advance at the rate of $1.00 per acre, must be paid and a $5,000.00 corporate surety bond must be furnished prior to the issuance of the lease. Bidders are warned against violations of the provisions of section 59 of the United States Criminal Code approved March 4, 1909, prohibiting unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids at the discretion of the Secretary of the Interior. (Sgn) Fred W. Johnson, Commissioner.

Sunset Oil Co. No. 1 J. G. Heinen, Aldrete gr. T.D. 7,017 ft.; abd.
Transwestern & Trinity No. 1 Wood, Cona Anastacia Rajoas Sur. (3 mi. S Refugio). T.D. 7,010 ft.; abd.

San Patricio County

Republic Nat. Gas Co. No. 1 Galler, Sec. 26 (E. Plymouth area). T.D. 6,037 ft.; run 5½-in. csg. to test at 5,175 ft.
Texas Gulf Prod. Co. No. 1 Hollan, McAuley Lge., Blk. 6 (1¼ mi. SW Sinton). Cg. 6,376 ft.
Wellington Oil Co. No. 6 Welder, Hart Sur. (Angelita). Drlg. 6,880 ft.

Starr County

Hebert Aid's No. 1 Desidero Vera, Jose F. Garza Sur. Spd.
Banks, Miller Oil Co. No. 1 McLean, Unit 3, Valle Del Rico Rio Grande subd., J. B. Villareal Porc. 75. T.D. 2,730 ft.; tstg.
H. L. Curry No. 3 Tijerina, H.E.&W.T. R.R. Sur. No. 299. T.D. 849 ft.; 4-in csg. 844 ft.; tstd. S.W.; P.B. 820 ft.; abd.
C. L. Foster No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.
Liberty Oil Co. No. 1 Bass, S.K.&K. Sur. No. 71. S.D. 1,706 ft.
Lynes & Robertson No. 1 Villareal, C.C. S.D.&R.G.N.G.R.R. Sur. No. 241. Loc.
Magnolia Pet. Co. No. 2 Guerra, Santa Cruz gr. T.D. 6,563 ft.; 7-in. csg. 5,911 ft.; perf. csg. 5,810-18 ft.; flwd. est. 80 bbl. dist. per day; 9/64-in. ck.
Magnolia Pet. Co. No. 1 Zaguire (Cuevatas area). Drlg. sdy. sh. 4,785 ft.
Rowan & Hope, Inc.'s No. 1 Dallas Joint Stock Ld. Bnk., G. Silvas Sur. Cg. 4,136 ft.
Verne Clopton's No. 1 Lee M. Green, J. J. Garza Falcon, Porc. 81, Lot 7, Sh. 85. R.U.

Travis County

Burns Oil Co.'s No. 1 Lundergren, Henry Martin Sur. No. 65. T.D. 200 ft.

Victoria County

Tom L. Gunter et al No. 1 Dietzel (1 mi. E of Coletto Creek field). Rig.
John Mayo and Trinity Drillers, Inc.'s No. 1 Vogt (2 mi. S Victoria). T.D. 5,323 ft.; P.B.; perf. csg. 2,552-55 ft.; flwg. gas, spray; kill well; pulling liner.
Renwar Oil Co. et al's No. 1 Weaver. 10¾-in. csg. 456 ft.; cg. sh. 4,922 ft.
G. E. Smith Drlg. Co. No. 1 Marthiljohn! hrs., R. Manchola Sur. (Coletto). T.D. 2,935 ft.; abd.
Geo. E. Smith's No. 1 J. E. Stubbs, R. Manchola Sur. R.U.
Stanolind O. & G. Co. No. 7 Vandenberge (Placedo). Drlg. sh. in sdtrkd. hole.

Webb County

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.
G. W. Basom's No. 1 Henry Adami, H. &G.N.R.R. Sur. No. 335. T.D. 1,278 ft.
Boysen & Jones' No. 4 Watkins, San Casimiro gr. Sd. 777-85 ft.; T.D. 790 ft.; 7-in. csg. 776 ft.; showed oil and wtr.; abd.
Locke Purnell's No. 1 A. E. Gates, C.C. S.D.&R.G.N.G.R.R. Sur. No. 21. T.D. 1,709 ft.; S.D.
Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). Drlg. sh. 4,769 ft.

Zapata County

Joe Martinez No. 2 Bruni, J. V. Borego gr. S.D. 355 ft.

WEST TEXAS WILDCATS

Cochran County

Humble O. & R. Co. No. 1 J. Westheimer, Lab. 1, Lge. 146, Stonewall Co. Sch. Ld. Drlg. 3,140 ft.

Crane County

Gulf Oil Corp. No. 5 M. B. McKnight Sec. 1, Blk. 21-B, P.S.L. Sur. Strghtn. hole 4,915 ft.; T.D. 4,980 ft.
Magnolia Pet. Co. No. 21 Hardewick-Univ., Blk. 30, Sec. 27, University Sur. (Extension). Drlg. 594 ft.

Crockett County

J. S. Pittman No. 1 Corbett-Humble, Sec 15, Blk. 2-B, G.C.&S.F. Sur. Drlg. 2,320 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. S.D. 6,873 ft.

Dawson County

Rav Albaugh No. 1 Dewey Hogg. T.D. 4,125 ft.; S.D.; may D.D.

Ector County

J. D. Bodkins No. 1 H. F. Foster, Sec. 12, Blk. 43, T.&P. Sur. Drlg. 3,409 ft.
R. H. Gill No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.
Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. P.B. 4,167 ft.; tstg. 24 B.O.P.D.; W.O.C. 4,373 ft.

El Paso County

Tri-State Oil Co.'s No. 1 Kimble, Sec. 237, A.T.&S.F.R.R. Sur. Drlg. by tools 3,571 ft.

Gaines County

Ohio Oil Co. No. 1 W. L. Gibbs, Sec. 270, Blk. G, W.T.R.R. Sur. R.U.R.
Stanolind O. & G. Co. No. 1 J. B. Rayner, Sec. 3, Blk. 30-C, P.S.L. Sur.; 6,000-ft. test. Drld. 39 ft. of sat. out of a 104-ft. sec. from 4,661-4,765 ft.; made 60 bbl. in 30 min.; air-lift.

Glasscock County

J. R. Petty No. 1 Joe Blake, Sec. 163, Blk. 29, W.&N.W. Sur. S.D.O. 1,681 ft.

Howard County

F. H. E. Oil Co. et al No. 2 D. H. Snyder, Sec. 21, Twp. 1s, Blk. 30, T.&P. Sur.; (extension). Drlg. 1,050 ft.
M. L. Richards No. 1 Read, Sec. 36, Blk. 30, T.&P. Sur. Drlg. 530 ft. in new hole.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6, S.G. 6,340-45 ft.; T.D. 6,402 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. S.D. 6,015 ft.

Irion County

P. I. Fox et al No. 1 J. M. Nutt, Sec. 5, Gonzales C.S.L. Drlg. 335 ft.; no report.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co., Sec. 151, H.E.W.T. Sur. Pulling 5-in., 4,450 ft.

McCulloch County

A. E. McMillan No. 1 Nat Randall, A. M. Waldrip Sur., Sec. 146. Drlg. 1,485 ft.; est. 1,250,000 cu. ft. gas.

Pecos County

Leidecker & Cain No. 1 M. M. Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. Comp.; 13 B.O.P.D.; sd. 1,686-1,783 ft.
Lloyd-Penn & Hargraves No. 1 H. E. Bonebrake, Sec. 110, Blk. 8, H.&G.N. Sur. U.R. 7-in. 1,050 ft.; T.D. 1,115 ft.
Magnolia Pet. Co. No. 1 W. I. Masterson, Sec. 10, Blk. 10, H.&G.N. Sur. (Offset S to Apco discovery). Fsg. 4,348 ft.
Rockdale Oil Co. No. 1 A. Sullivan, Sec. 72, Blk. 10, H.&G.N. Sur. S.D. 25 ft.; repairs.
Stanley Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. up bailer 6,868 ft.
Superior Oil Co. No. 1 V. W. Crockett-Continental Oil Co., Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P.

Presidio County

Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31, Blk. 58, P.S.L. Sur. S.D.R. 450 ft.
Forest Development Corp. No. 1 I. E. Scott, Sec. 286, Blk. 13, H.&G.N. Sur. Cmtd. 8½-in. csg. 3,702 ft.; drlg. 4,585 ft.

Runnels County

G. U. Phillips et al's No. 1 W. J. Fowler, SW¼ Sec. 150, E.T.R.R. Sur. S.D. 1,425 ft.; csg.
Homer Price et al's No. 2 J. C. Beddo, Blk. 51, Diaz Sur. No. 532. S.D. 2,365 ft.

Terrell County

Shirley, Lanham & Blakeney No. 1, Sec. 45, Blk. 2-B, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. S.D. csg. 268 ft.
E. M. Thomasson No. 1 Bates, Sec. 31, Blk. 1, H.&G.N. Sur. Loc.

Tom Green County

Dane Elder No. 1 DeLong, James Webb Sur. 83. S.D.O. 555 ft.
H. A. Ringle No. 1 Seal, Sec. 133, Washington Co. R.R. Sur. Drlg. 950 ft.
Dan Short's No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur.; 3,500-ft. test. Rng. 10-in. csg. 2,058 ft.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. U.R. 12½-in. hole to 2,105 ft.; T.D. 2,769 ft.

Yoakum County

Fred M. Allison Prod. Co. No. 1 D. T. Bush Est., Sec. 629, Blk. D, J. H. Gibson Sur. Drlg. 2,520 ft.
Aloco Oil Co. No. 1 W. S. Knight, Sec. 773, Blk. D, J. H. Gibson Sur. (Extension). Drlg. 3,680 ft.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. Drlg. 4,030 ft.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. C.O. 5,650 ft.

Gray County

Products O. & G. Co. No. 1 Mason Davis, Sec. 23, Blk. 23-M, H.&G.N. Sur. Loc.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. Drlg. 1,680 ft.

Ochiltree County

James R. Macon et al No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. Bailing rotary fluid preparatory to resuming drlg. with C.T.; T.D. 6,274 ft.

Potter County

Les Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. Drlg. 350 ft.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. S.D. 5,428 ft.

Wheeler County

Smith Bros. No. 1 Ribble, Sec. 46, Blk. 5-A, H.&G.N. Sur. Drlg. 3,880 ft.

E. C. TEXAS WILDCATS

Anderson County

R. H. Williamson No. 1 O. G. Rogers, Wm. Greenwood Sur., 6 mi. SW of Elkhart. R.U.

Angelina County

Ginter Bros. No. 7 Copes Hrs., J. Morin Sur., 3 mi. E of Dibol. S.D. 60 ft.

Ellis County

C. M. Beckner et al No. 1 H. A. Styles, A. Bullock Sur., 3½ mi. W of Maypearl. S.D. 660 ft.

Falls County

M. A. Hayes No. 1 D. G. Wooten, J. Powell Sur., 8 mi. SE of Lott. Tstg. after acd. 1,854 ft.; S.D. 2,137 ft.
R. D. Salisbury No. 1 W. M. Shankle, J. A. Manchaca Sur., 1½ mi. NE Chilton. S.D. 200 ft.
Jack Shaunfield No. 1 Bargonier, J. M. Graham Sur., SE of Chilton. S.D. 1,180 ft.

Fannin County

H. W. English No. 1 T. W. Ayers, J. D. Seales Sur. S.D. 680 ft.

Freestone County

Brothers Oil Co. No. 1 P. D. C. Ball, M. Rionda Sur., 5 mi. NW of Butler. S.D. 40 ft.; wtr.
W. H. Keeling No. 1 Bounds-Longbotham, R. B. Longbotham Sur. S.D. 30 ft.
A. G. W. Biddle No. 1 D. O. Nettles, Y. G. Dollahite Sur., 5 mi. NW of Fairfield. Loc.

Grayson County

John Grey No. 1 Freedman, W. S. Reeves Sur., 8 mi. NW of Denison. O.S. 1,357-59 ft.; S.D. 1,381 ft.; S.O.; tstd. S.W.; S.D.; W.O. 1,407 ft.
Prince Bros. No. 1 Williams, S. Nix Sur., 2 mi. NE of Van Alystine. S.D. 1,173 ft.

Houston County

Aloco Oil Co. No. 1 Z. W. Wiesinger, T. H. Barrow Sur., 7 mi. SW of Elkhart. W.O.C. 953 ft.

Hunt County

Jennings & Dooley No. 1 V. T. Banks, J. W. Haynes Sur., 5 mi. NE of Greenville. S.D. 3,237 ft.
Westmount Oil Co. No. 1 Stevens, J. L. Terry Sur., Abst. 1231, 1¼ mi. N of Celeste. Drlg. tight well 2,450 ft.

Kaufman County

Tyler & Smith No. 1 Trinity farms, G. Crocher Sur., 3½ mi. SW of Mabank. D.&A. 3,540 ft.

Leon County

J. K. Hughes No. 1 Moore, J. N. Boyd Sur., 6 mi. SE Buffalo. D.S.T. from 5,503-17 ft.; made 150 ft. mud cut with oil; S.D.O.

Limestone County

M. Samuel No. 1 C. Barron, W. G. McKinsey Sur., 4 mi. NW of Thornton. R.U.

McLennan County

M. M. Russell No. 1 J. B. Lindsey, G. H. Robertson Sur., NW of Waco Lake. S.D. 192 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. Prep. to D.D. 842 ft.

Rains County

McKinley & Hastings No. 1 McTaggart, B. Milder Sur., 1 mi. W of Emory. S.D. 720 ft.

Red River County

Kansas-Oklahoma Pet. Corp. No. 1 R. H. Ringwald, A. Moore Sur., 3 mi. W of Manchester. Drlg. 600 ft.

Robertson County

J. E. Cox No. 1 Sandifer, H. Henry Sur., 3½ mi. SE of Franklin. Loc.

Smith County

Martin & Moore No. 1 B. H. Lunceford, W. Shipp Sur., 3 mi. NW of Garden Valley. W.O.C. 60 ft.
O. L. Ross No. 1 W. P. Rushing, J. Herrin Sur., 1 mi. E of Whitehouse. Drlg.
Texas Co.'s No. 1 A. A. Scritchfield, D. Page Sur., 2 mi. NW of Bullard. Drlg. and R.U.
J. H. Thomason No. 1 J. W. Bartlett, R. H. Stewart Sur., ½ mi. SE of Jamestown. S.D. 2,004 ft.

Titus County

Superior Oil Co. No. 1 John Hargraves, S. B. Patton Sur., 8 mi. S of Mt. Pleasant. Jnkd. and abd. 5,925 ft.

NORTH TEXAS WILDCATS

Archer County

British American No. 1 Jack Parkey, Sec. 11, Blk. 3, H.&T.C. Sur., 5,000-ft. test. Test L. 4,653-69 ft.; T.D. 4,669 ft.
Deep Oil Dev. Co. No. 1 J. A. Little, NE¼ Sec. 2, H.T.&B. R.R. Sur., Abst. 811. Cmtd. 6⅝-in. 4,320 ft.
S. H. Fagadau et al No. 1 Mrs. C. Meiugin, Sec. 41, Blk. 5, Clark-Plumb Sur. Comp.
Magnolia Pet. Co. No. 1 F. Thom, N part of S 553 acres of Spillers Sur., Abst. 375; 5,000-ft. test. 6⅝-in. at 3,800 ft.; sdy L., S.O. 3,839-60 ft.; prep. to shoot.

Baylor County

British American No. 1-B F. C. Green, NW¼ of Sec. 219, T.&N.O. Sur., 2,000-ft. test. D.&A. 4,326 ft.

Clay County

L. T. Burns No. 1 E. F. Calloway, Lot 9, Hopkins Co. Sch. Ld. Drlg. sh. 4,433 ft.
L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745. 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; S.D.O., T.D. 4,454 ft. after tstg. S.W.
Consolidated Oil Co. No. 1 A. H. Bevering, Sec. 9, B.B.B.&C. A-69. Sur. Set 10-in. 157 ft.; D.&A. 3,090 ft.
Frabor-Hodges and Mid-Union Drlg. Co. No. 1 Mrs. R. C. Kinder, Lot 11, Clark & Plumb Sur., Blk. 2. S.S.O. 5,273-80 ft.; T.D. 5,527 ft.; P.B. 4,320 ft.; S.S.O. 4,130-65 ft.; shot 60 qt. 4,130-52 ft.; tstg.; no show; swbg. 5 B.P.H.
Nixon Brothers and J. W. Dutton No. 1 Tanman, SE¼ of Block 4, Cherokee C.S.L., R.U.R.&S.D.
E. C. Norwood et al No. 1 H. C. Shipley, Sec. 29, Madison Co. Sch. Ld. A-302 Sur. S.D.O. 5,066 ft.
Youngblood & Foree No. 1 Mrs. Ida Wynn, Sec. 2, T.&.N.O. Sur. A-795. Drlg. 5,359 ft.

Cooke County

Target Drlg. Co. No. 1 Honeycutt, Sec. 4, Univ. Lge. No. 8. Set. whpstk. 3,153 ft.; T.D. 4,950 ft.
Trumpter Pet. Corp. No. 1 F. Hesse, N part of Patsey Lewis Sur., Abst. 365. D.&A. 1,982 ft.

Cottle County

J. E. Burns et al No. 1 J. E. Moss, Sec. 5, Blk L, A. Forsythe Sur. Loc.
Magnolia Pet. Co. No. 1 Alice Green, NW part of John M. Grogan Sur., Abst. 1121. Drlg. 5,362 ft.

Hardeman County

Amerada Pet. Corp. No. 1 W. M. Rice, Sec. 81, Blk. H, W.&N.W. Sur. Drlg. 5,149 ft.; no report.
G. T. Kimble No. 1 M. T. Walling, SW¼ Sec. 368, Blk. H, H.W.&N.W. Sur., 5,500-ft. test. Loc.

Jack County

Hanlon-Buchanan, Inc., No. 4 T. T. Bouldin, SW part of Blk. 3, W.C.R.R. Sur., Abst. 906. 6⅝-in. 2,728 ft.; W.O.C.
Harper Pet. Corp. No. 2 S. V. Vanhooser, Abst. 1926, J. W. Morrow Sur. Drlg. 2,000 ft.
Nelson Oil Syndicate No. 1 O. D. Birdwell, SW part of T. B. Riddle Sur., Abst. 1647. T.D. 4,405 ft.; flwg. by heads.

Montague County

Sackett and Continental No. 1 J. L. Brown, Sec. 58, E.T.R.R. Sur. Drlg. 2,400 ft.; no report.

Wichita County

Hanlon-Buchanan, Inc., No. 1 Fassett & Tuttle "F." D.L.&C. Sur. A-596. 6⅝-in. 4,040 ft.; L.&O.S. 4,061-92 ft.; shot 155 qt.; tstg. est. 100 bbl.; installing pmp.
R. Konman and others No. 15 C. A. Mertens, NE¼ Sec. 2, G.C.S.F. Sur., Abst. 605. S.S.O. 1,250-56 ft.; comp.; 2 B.O.P.D.
G. A. Mogren No. 1 C. A. Metens, extreme NE cor. of G.C.S.F. Sur. Tstg. S.S.O. 940-41 ft.; comp.; 4 B.O.P.D.
J. R. Price and others No. 1 Hodges, NW¼ of Block 13, Burkburnett townsite, Thomas Redman Sur., Abst. 249. T.D. 1,710 ft.; 6⅝-in. 1,670 ft.; shot with 17 qt.; tstg.
Staley Oil Co. No. 1 Banta, W½ Thos. Cooke Sur., Abst. 34. Drlg. 4,470 ft.

Wilbarger County

Lawson & Leavell No. 16 W. T. Waggoner A, Sec. 109, H.&T.C. Sur., Blk. 14; 3,500-ft. test. Prep. to deepen; T.D. 1,445 ft.
W. B. Omohundro's No. 1 W. T. Waggoner est., Sec. 51, Blk. 14, H.&T.C. Sur. Drlg. 1,300 ft.
Rogers & Cavin No. 1 A. P. Morris, Sec. 3, Blk. 14, SW of Harrold. S.D.O. 2,100 ft.

Wise County

H. M. Muse No. 1 F. F. Kaker, Blk. 16, Matagorda Co. Sch. Ld. Pits.

Young County

Gentex Oil Co. No. 1 Burch, Abst. 1770, T. J. Burch Sur. Set 5½-in. at 4,145 ft.; T.D. 4,364 ft.; 5½-in. 4,085 ft.; drlg. plug.
L. A. Long et al No. 1-B King-Wooten, Sec. 1969, T.E.L. Sur. 5½-in. 4,336 ft. collapsed; fsg.; T.D. 4,538 ft.
Pitzer-West and Brazos-Young No. 1 F.

(Continued on Page 111)

Petroleum Embargo Would Paralyze Japan

(Continued from Page 26)

imports by increasing imports from the East Indies.

PETROLEUM PRODUCTION OF THE EAST INDIES FIELDS

(In barrels)

	1937	1938	1939*
Dutch East Indies—			
Sumatra	33,500,000	34,500,000	40,000,000
Borneo	13,000,000	12,800,000	13,000,000
Java	7,200,000	6,950,000	5,700,000
British possessions:			
Sarawak	1,700,000	1,620,000	1,300,000
Brunei	4,400,000	5,390,000	6,000,000
	59,800,000	61,260,000	66,000,000

*Estimated.

It should be kept in mind, however, that these fields now supply and have supplied for years not only the domestic needs of the East Indies but those of neighboring countries and that these requirements, as shown on the following table, take up a large part of the East Indies petroleum production.

PETROLEUM CONSUMPTION FOR CIVIL PURPOSES OF EAST INDIES AND NEIGHBORING COUNTRIES

(In barrels)

	1937	1938	1939*
Australia	13,850,000	14,450,000	14,800,000
Dutch East Indies	11,300,000	11,350,000	11,400,000
British Malay	4,450,000	4,350,000	4,380,000
New Zealand	4,810,000	4,520,000	4,600,000
Philippine Islands	4,500,000	4,320,000	4,350,000
Hong Kong	1,100,000	1,200,000	1,100,000
Siam	1,000,000	1,010,000	1,200,000
Indo-China	850,000	849,000	850,000
Sarawak	800,000	814,000	820,000
	42,660,000	42,863,000	43,500,000

*Estimated.

A petroleum balance sheet of East Indies region may be expressed approximately as follows:

PETROLEUM BALANCE SHEET OF EAST INDIES AND NEIGHBORING COUNTRIES

(In barrels)

	Production	Consumption			Balance exportable to Japan
		Domestic	Military	Total	
1937	59,800,000	42,660,000	7,140,000	49,800,000	10,000,000
1938	61,260,000	42,863,000	8,397,000	51,260,000	10,000,000
1939*	66,000,000	43,500,000	8,400,000	51,900,000	14,100,000

*Estimated.

But as shown in a previous table, Japan is already importing from East Indies all its "exportable balance" and would therefore have to look elsewhere to make up any deficiency caused by the United States embargo, unless the domestic consumption of the East Indies and exports to countries other than Japan is greatly diminished, and this can be brought about only with the sympathetic cooperation of the governments of Great Britain and the Netherlands.

It might seem reasonable to assume that in case the embargo goes into effect, any deficiency in Japan's supply that could not be made up from the East Indies fields could be procured elsewhere. A careful study of the actual situation, however, presents quite a different picture; to illustrate, Peruvian oil controlled by American interests would be unavailable. Petroleum from Mexico, Venezuela, Colombia, and Trinidad would have to be transported through the Panama Canal. Incidentally, the distance from these field to Yokohama is close to 9,000 miles, or twice the distance from Yokohama to San Francisco. Petroleum from Iraq will have to be transported through the Suez Canal and by Singapore, which could only be possible if Great Britain does not cooperate with the American embargo. In view of the recent attacks of Japan against British interests in China, it is hardly to be expected that Great Britain would take the side of Japan against the United States in case of an embargo. For the same reason it is very doubtful that Japan could obtain its need of petroleum supply from the Persian fields controlled by Great Britain, nor from those in Bahrein Island, which are controlled by American interests.

In this connection, the great importance of the Singapore base in the Japanese problem of oil supply should be noted. Singapore, the eastern Gibraltar, is considered the most perfect fortress in existence, where, among other facilities, the British Government has a storage capacity for 7,000,000 bbl. of petroleum products, which can easily be replenished from the neighboring East Indies fields. British Malay, in which Singapore is located, is the richest British possession or sphere of interest, exporting, among other products, about 1,000 tons of iron ore to Japan. Northwestern Borneo and the Sarawak and Brunei possessions not only produce petroleum, but on account of their location with respect to Singapore would be of assistance in guarding the approach of the East Indies from Japan to the north. With the Singapore base and its Asiatic fleet Great Britain could make it necessary for Japan to transport any oil it might obtain from Persia, Iraq, Bahrein Island, and Arabia, a practically prohibitive distance.

It follows, therefore, that practically the only solution to this problem is for Japan to monopolize the entire output of the East Indies fields, which could be done only by depriving the region of its domestic petroleum supply. To carry out such a program, the conquest of the East Indies, Asiatic fleet apparently becomes necessary at once, for it seems scarcely probable that the British, Dutch and American interests controlling the East Indian production would peaceably surrender their established markets in order to supply Japan with the petroleum needed for the present or intensified military activities in China and Manchukuo. Indeed, the present indications point to at least a partial embargo on exports of East Indies oil to Japan rather than to an effort to counterbalance any embargo on American petroleum shipments to Japan by increasing the East Indies production or the percentage exported to Japan. If there should be embargoes on both American and East Indies petroleum, Japan would be placed immediately in a critical situation, for its oil in storage could supply its military demand for at most a few months.

In order for Japan to transport from distant fields its petroleum requirements, it not only utilizes its entire tanker fleet, which is insufficient for the purpose, but has to charter tankers from other nations. The following tables show the eight leading tanker fleets, by nations, with the number and carrying capacity of the tankers.

NUMBER AND CAPACITY OF TANKERS

Carrying capacity in barrels—	Great Britain	U. S.	Norway	Netherlands	Panama	Japan	France	Germany
50,000 or less	135	61	20	58	3	5	17	17
50,000 to 70,000	63	56	35	9	2	3	17	5
70,000 to 80,000	46	114	35	10	7	3	5	5
80,000 to 90,000	80	77	39	1	3	11	2	..
90,000 to 100,000	32	18	28	6	..	3	4	..
100,000 and over	128	94	110	26	33	13	13	11

The tanker fleet of Japan with the number of tankers and individual carrying capacity, and the total capacity of the fleet, is shown in the following table:

TANKER FLEET OF JAPAN

No. Tankers	Individual Carrying Capacity	Total Carrying Capacity
5	50,000 bbl. or less	49,000 bbl.
3	50,000 to 70,000	169,000 bbl.
3	70,000 to 80,000	214,000 bbl.
11	80,000 to 90,000	919,000 bbl.
3	90,000 to 100,000	273,000 bbl.
13	100,000 and over	1,500,000 bbl.
Total		3,124,000 bbl.

It will be seen that the entire Japanese fleet has a "storage capacity" of only 3,124,000 bbl., which can actually deliver to Japan varying volumes of petroleum according to the number of days required for the round trip from Japan to the foreign oil fields in question. The yearly carrying capacity of Japan's tanker fleet transporting petroleum from the fields of East Indies and California may be summarized as follows:

YEARLY CARRYING CAPACITY OF JAPAN'S TANKER FLEET FROM EAST INDIES AND CALIFORNIA FIELDS

From Yokohama to:	Distance Nautical Miles from Yokohama	*Days Round Trip	*No. Round Trips	Yearly Quantity in Bbl.
Balik Papan, Borneo	2,700	25	15	46,900,000
Miri, Sarawak	2,300	22	17	53,100,000
Palambang, Sumatra	3,000	27	14	43,700,000
Surabaya, Java	3,607	31	12	37,500,000
San Francisco, Calif.	4,536	38	10	31,200,000

*Assumes average speed of tankers at 12 knots and six days in port per round trip.

It will be seen that the present fleet is sufficient to transport the entire requirements of Japan from Miri in Sarawak, the nearest of the East Indies fields, which incidentally are in British territory, and from Balik Papan in Borneo and Palambang in Sumatra.

The capacity of the Japanese tanker fleet, on the other hand, is insufficient to supply the country with its requirements from Java or California and even more so from the more distant fields of Bahrein and Persia.

It follows from the foregoing that if a petroleum embargo were supplemented by depriving Japan of foreign tanker facilities, its position would be made forthwith untenable.

Earnings Not Keeping Pace With Demand

(Continued from Page 15)

increased. Meanwhile, crude production departments have carried forward extensive drilling programs at the same time that per-well allowables were being reduced to the vanishing point, and crude prices were showing every sign of cracking.

It is possible to see a partial explanation for this in the attitude of the Department of Justice, which apparently without any real understanding of the economics of the industry has created a "no-man's land" of trade practices. There is no question that a reappraisal of the federal Government's attitude towards the refiner's problems is necessary and the industry should bend every effort to present its case vigorously at the T.N.E.C. hearings, and elsewhere. However, it is inconceivable that if each major company worked out its own operations intelligently with full weight given to the possible effect upon the nationwide supply-demand equilibrium of the industry, that any question of legality under the antitrust legislation would be involved.

If before approval was given for any production, refining, or marketing program, the possible im-

pact of that program upon the overall company picture and the overall industry picture were visualized, one of the basic causes of maladjustments in the industry would be thereby attacked. If each company activity were approached in this light, it is not reasonable to expect that programs would be approved, the net ultimate effect of which would be to reduce the company's earning power. However, this demands proper interpretation of the overall picture and the courage to take action once the logical procedure is perceived. In the latter connection, the point can be made that the responsibility for leadership is greatest among those companies where investment in facilities, management, payroll and public goodwill is largest.

The statistics necessary for reaching sound conclusions as to the supply-demand relationships of the industry's products and the trends underway are readily available. The Bureau of Mines publishes monthly carefully worked out estimates of nation-wide gasoline and crude-oil demand. In addition, the estimate on crude demand is divided according to the various oil states. Other pertinent oil statistics are also issued by this agency. The American Petroleum Institute issues weekly statistics on nation-wide gasoline output, and gasoline and fuel-oil stocks, and crude-oil output, according to the various producing states. Numerous public and private agencies publish statistics on nation-wide levels and trends in purchasing power, national income and industrial output. The problems of interpreting these data in terms of an individual company's operations is more difficult, but not insuperable as some far-sighted units in the industry have already discovered. It may be necessary to give more emphasis to personnel trained in economics and statistics, but the chief requirement is a willingness and determination to see a company's operations in all its ramifications against the wider background of the industry's and the nation's economy.

United Action Needed

However, the major integrated companies cannot work out the industry's problems single handed. The smaller so-called independent companies and the oil states must also accept some of the responsibility involved in keeping the industry's house in order. Among independent producers, refiners, and marketers, it seems that the most important thing to be achieved is a fundamental change of attitude toward their own position in the industry. The idea appears to have grown up among the independent companies that their interests and the interests of the major companies are mutually incompatible. That the majors can prosper only by taking it out of the hide of the little fellow. An exhaustive study of the record reveals the fallacy of this point of view. There has never been a period in the industry when the major companies were losing money and the independents making it; on the other hand every period of prosperity for the major companies has coincided with a period of prosperity for the independents.

For the most part, the major oil states have done a good job in controlling crude output under the Interstate Oil Compact and the Connally "hot" oil act. Texas, Oklahoma and Kansas particularly have shown a willingness to see their own problems in terms of wider industry perspective. However, recent statements of Mid-Continent oil regulatory bodies have smacked more of politics than of a sincere desire to contribute to a solution of present difficulties.

One of the fundamental problems of the producing division of the industry has been the pressure of huge proven crude reserves against reduced per-well allowables. In this field an outstanding opportunity exists for constructive action along the lines of more scientific well spacing and unitization of pools. The state oil commissions are in a strategic position to encourage constructive action along these lines. Yet, the record shows that well-spacing regulations have been relaxed throughout the Mid-Continent and that a direct result has been a tendency to exceed per-well allowables. In this connection, the Rowan & Nichols decision, providing for the calculation of allowables on the basis of acreage rather than number of wells, contains an important guidepost for the industry which can be utilized to good advantage. Unitization is more a concern of the individual companies, but there is no reason why the state commissions should not encourage efforts in this direction in an attempt to curb the noneconomic drilling programs presently underway.

Louisiana and Illinois

Of great concern to the industry is the outright abuse of the proration system which has taken place in Louisiana. This involves politics more than industry factors but every oil executive who values his industry's welfare ought to challenge such practices wherever they exist.

No one would gainsay the right of Illinois to develop its crude oil resources and participate fully in the national demand for petroleum products. However, unless the officials of that state and the officials of companies operating in that state are anxious to have federal control of the oil industry, they simply must consider the impact of their own programs upon Mid-Continent crude production and prices. It is not reasonable to expect the rest of the Mid-Continent to sit idly by while Illinois captures a continually greater share of the available markets, with oil that is produced without regard for modern conservation practices. However, there appears ample flexibility within the workings of the Interstate Oil Compact Commission to permit satisfaction of the legitimate aspirations of Illinois without adverse effects upon the whole industry. This happy result cannot be achieved without cooperation by Illinois with the other oil states.

Finally, a word about the recent shutdowns. Legal validation of the proration mechanism rests upon the principle of conservation, or in other words prevention of physical waste. While any efficient program of conservation cannot fail to have an effect upon the petroleum price structure, there appears no justification in either law or economics for use of the proration mechanism to sustain artificial prices directly for crude oil and indirectly for refined products. Insofar as the law is concerned this appears a clear-cut violation of antitrust legislation. Insofar as economics is concerned, the history of price fixing shows the futility of any efforts to maintain artificial prices. Prices which are not justified by supply-demand factors or by the economies of an industry always break down and usually lead to greater problems than they were intended to cure.

It would appear rather that proration should be an engineering concept with the flow from a given pool regulated only to provide the greatest ultimate return of crude from that pool. Dr. Joseph E. Pogue of the Chase National Bank has given eloquent expression to the case for this concept. Any other form of proration would be artificial in character and unable to withstand the acid test of whether it is for the public good, or not.

Federal Regulation

There is a large body of opinion that holds that the oil industry must eventually be subjected to federal regulation. If this be so, it is indeed a gloomy prospect. A study of the Cole bill introduced at the last session of Congress suggests that it might accomplish some good in regulating oil production, if intelligently administered. However, once the principle of federal control is accepted, one step will lead to another until the industry will lose its management function in important respects. When this happens, deterioration is inevitable. One has only to examine the predicament of the railroads to understand this point.

It is certainly understandable that confronted with one crisis after another, each more baffling than its predecessor, there should be created a temptation in some quarters of the industry to lean upon the federal Government for support in curing the industry's ills. The prospect of an omnipotent power prepared to wave a magic wand and remove all supply-demand and other maladjustments is always alluring to people who have not thought through the ultimate implications involved. It is possible that federal regulation would bring about temporary stabilization of the industry but it would also bring about permanent stultification. It is inconceivable that the management initiative, energy, and imagination that created the vast and efficient mechanism that is the oil industry of today would be satisfied with such an outlook. This solution would be especially unsatisfying in view of the opportunities for constructive action so clearly apparent.

•

California Fair Practice Law Weakened

LOS ANGELES, Calif.—The Appellate Division of the Los Angeles Superior Court has practically voided the California Fair Trade Act which prevents the selling of merchandise below cost by ruling that gasoline prices posted on service-station pumps do not mean necessarily the fuel must be sold at that figure. If, for instance, the posted price is 18 cents the station operator may charge only 16 cents or any other price. This permits the so-called under-the-canopy selling which in effect amounts to the same thing and puts a premium on rebates.

Paul Mason, service-station operator, convicted in municipal court for violation of the Petroleum Products Price Fraud law by selling 5 gal. at 16 cents per gallon through an 18-cent pump, was the appellant who secured a reversal.

The Appellate Court ruled that, "In our opinion this was not a criminal act. The statutory basis upon which the people rest their cause is the first sentence of Section 11 of an act to prevent fraud or misrepresentation in the distribution and sale of gasoline or other motor fuel. It will be noted that nowhere is it expressly stated that it shall be unlawful to sell at any other than the posted price." Judge Shaw, dissenting, wrote: "Sales of motor fuel are sufficiently differentiated from sales of other articles to justify singling them out for price-posting requirements. The statute calls for a price of all gasoline sold to be posted in a visible position, and when a sale is made the price of all gasoline involved in that sale must be posted. The statute does not prohibit discounts but merely demands the discount price be posted. They may have a purpose in preventing secret rebates and discounts, which, if not amounting to fraud, do constitute a sort of competition which the legislature deemed unfair and undertook to prohibit."

This decision opens the way for cut-throat competition, a condition that has been absent during the past 2 years, unless refiners and marketers decide to take advantage of the Fair Trade Act's provision which gives them authority to get the retail selling price. The latter part is still in effect and may be invoked although at no time have refiners taken action to force resellers to comply with this provision.

Personal Paragraphs

O. F. COLLINGE, operating in the oil and gasoline brokerage business in Los Angeles, Calif., has purchased the interests of W. C. van Fleet and W. P. Durkee in Allyn Tank Lines and in O. F. Collinge & Co. The new company will be known as O. F. Collinge, Inc. Mr. van Fleet and Mr. Durkee, veterans in the oil business and widely known on the Pacific Coast, will continue their own association but will confine their activities to crude-oil production. O. F. Collinge, Inc., under the personal supervision of Mr. Collinge, will continue its brokerage business, dealing principally in the export market, and will continue operation of Allyn Tank Lines, which operates a fleet of oil tank trucks in southern California and which currently is hauling for General Petroleum Corp., Standard Oil Co. of California, and Shell Oil Co., Inc.

WALTER F. ROGERS, corrosion research engineer of the Gulf Oil Corp., in Houston, Tex., is spending his vacation in Colorado.

RALPH G. TRIPPETT, Shreveport, La., oil operator, has returned from a vacation trip to Sun Valley, Idaho, and the Grand Canyon.

A. W. CHERRY, independent oil operator of Evansville, Ind., was in Midland, Tex., last week renewing acquaintances and looking over prospects.

M. C. McGEHEE, president of Texas Gulf Producing Co., Houston, Tex., sailed for home this week after an extended vacation tour of Switzerland, France and England.

A. W. SANDS, assistant superintendent of Texas Co. in the Long Beach field, California, recently rescued R. L. PATTON, petroleum engineer for the same company, who fell out of a boat in which the two were fishing at Lake Henshaw.

E. C. EDWARDS, of General Petroleum Corp., for some time at Bakersfield, and A. F. BARRATT, of the same company in Casper, Wyo., have been transferred to Alberta, Canada, for geological study of the area in which General Petroleum has become interested.

E. B. HUTSON, Shreveport, La., paleontologist with Standard Oil Co. of Louisiana, is on vacation with his family in Mexico.

C. D. CILEY, of Calgary, Alta., provincial supervisor for Canadian Oil Companies, Ltd., has been named Alberta manager, succeeding the late W. C. Sterling.

GEORGE SCHNEIDER, in charge of the geological department of Texas Co. in Shreveport, La., is on vacation in Denver, Colo.

JOHN GALLEY, of Tulsa, is now district geologist at Wichita, Kans., for Shell Oil Co., Inc. He succeeds LESLIE M. CLARK, who was sent to Centralia, Ill.

K. A. SCHMIDT, chief geologist with Tide Water Associated Oil Co. in Shreveport, La., is spending 3 weeks in Mexico, accompanied by his family.

CYRIL K. MORESI, with the Louisiana Geological Survey, has been appointed manager of the state Department of Conservation office in Monroe, following the resignation of W. D. DARK.

FRED OLMSTEAD of Norman, Okla., will have charge of the offices to be opened in Oklahoma City and Healdton, Okla., by McGraw Oil Co., of Tulsa. Mr. Olmstead had charge of oil activities at the famous 101 ranch under the late George Miller.

E. G. (TY) DAHLGREN, Wichita, Kans., petroleum geologist and economist-statistician, officially notified last week of his appointment to the Securities and Exchange Commission in Washington, D. C., as associate valuation engineer and oil expert, will assume his new post September 1. Mr. Dahlgren was conservation director for Kansas from July 1, 1937, to March 1, 1939. He served as technical adviser to Theo A. Morgan, was appointed conservation director by Gov. Payne Ratner, until last April, when he became a consulting geological engineer. Before going to Kansas, he was chief clerk of the Oklahoma Oil and Gas Conservation Department.

H. J. GRAVIS, independent producer of San Antonio, Tex., left last week for a 3 months' vacation which will include a tour of the Canadian Rockies.

CHARLES I. WRIGHT, formerly assistant engineer at Shell's Martinez refinery, is now with Shell Chemical Co. as the result of a promotion.

FRED PENTER, superintendent of Union Oil Co.'s Orcutt refinery, has been selected to bear the ensigns at a mounted exhibition in Santa Maria containing all historic flags that have flown over California.

DR. V. G. SLEIGHT, geologist with the Arkansas Oil and Gas Commission, was host to DR. TAYLOR THOM, professor of geology in Princeton University, and 12 Princeton geology students during a tour of South Arkansas fields recently.

J. D. SANDEFER, JR., independent oil operator of Breckenridge, Tex., is general chairman in charge of arrangements for celebration of the twentieth anniversary of the discovery of oil in the Breckenridge area. The 2-day program is scheduled for September 22 and 23.

F. C. HALL, Oklahoma City operator, has purchased the Embassy Apartments in Santa Monica, Calif., for a reported consideration of $240,000. Mr. Hall, who pilots his own plane, sponsored the Wiley Post-Gatty round-the-world flight in the Winnie Mae, named for his daughter.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Pipe-line curtailment of runs in fields outside of Cushing has made necessary the complete shutdown of many Oklahoma oil wells.

Sour Lake, with a production of 14,800 bbl. per day, is the largest field in the Texas-Louisiana Gulf Coast district.

Texas, largest state in the Union, ranks nineteenth in the value of its mineral products, including oil, but it has advanced from twenty-third place since 1911.

20 YEARS AGO

An 8,000-bbl. well is completed in the West Columbia, Texas, pool.

James D. Macintyre, veteran tank gaging engineer, dies in Bradford, Pa. He was with the Tide Water Pipe Co. for many years.

Frederick, Okla., citizens offer $25,000 to the first man or company that finds oil in commercial quantity in Tillman County.

Pennsylvania Grade crude commands a price of $4.25 per barrel; Mid-Continent crude, $2.25; Illinois, $2.42; Gulf Coast, $1.

10 YEARS AGO

The 14 wells in the Oklahoma City field range from 742 to 8,294 bbl. a day in production, and average 3,800 bbl. per day per well. There is no effort to curtail the output.

A well in Stephens County, Texas, is given a shot of 2,000 qt. of nitroglycerin. It took 19 hours to pour it.

K. D. Pardee, recently returned from a 3-year job in Iraq, has been made district superintendent in Montana for the Texas Production Co., a Rocky Mountain subsidiary of the Texas Co.

ARNOLD HEGWER, engineer with Texas Co., has been transferred from Fairfax to Sandoval, Ill.

GEORGE CARD, chief engineer for Stanolind Oil & Gas Co., Fort Worth, Tex., left last Friday for a 2 week's vacation in the mountains near Denver, Colo.

G. L. GANO, who heads the Arkansas Fuel Oil Co.'s oil pipe-line department in Shreveport, La., is on vacation with his family on the Mississippi Gulf Coast.

LINN CARTER, purchasing agent for American Liberty Pipe Line Co., Dallas, Tex., is back from his vacation at Rockport, on the Gulf of Mexico where he fished and took snapshots.

ROBERT B. CAMPBELL, geologist and president of Peninsular Oil & Refining Co., Tampa, Fla., will attend the fifth International Congress for the Unity of Science, held at Harvard University, Cambridge, Mass., September 3 to 9.

JOHN R. MANION, vice president and general manager of Sinclair Refining Co., pipe line department, was back at his desk in Tulsa this week after 2 weeks' vacation in Colorado Springs, Colo., where he joined his family, who had passed the summer there.

DR. F. J. SANDERS, head of the technical service division of Standard Oil Co. of Ohio since 1934, has been named superintendent of the company's Toledo refinery, succeeding J. BLAKE MIDDLETON. Mr. Middleton, who went to Toledo from Cleveland in 1936, has been made foreign representative of Socony-Vacuum Oil Co., and he will be in charge of refinery operations in Europe, with headquarters in The Hague.

Has Seen Much of Life

Jacob A. Moller, division superintendent for the Texas Co. in the Los Angeles Basin of California, had seen much of life before he settled down in the oil industry. His father was captain of a sailing vessel engaged in the West Coast trade and occasionally shipping to the Orient. The boy, born in San Francisco in 1877, often went with him and made one trip to China. He learned the life of the sea, not from books, but from the spray-swept deck of his father's ship. The tawdry characters who drifted into and out of San Francisco's Barbary Coast were familiar to him.

J. A. MOLLER

The family later established a home in Alameda, near Oakland, and there Jake attended high school. A variety of jobs and experiences followed, and he spent two adventurous years in the Klondike. His first oil-field job was in Crawford County, Illinois, in 1903. He soon became a tool-dresser, and after 15 years' absence from California he returned to that state. Before long he was on the payroll of the American Oil Field Co., and he has been in that organization's service ever since; for it became the California Co., and in 1928 the Texas Co. acquired the California Co.

In 1915 Mr. Moller was made production boss at Bakersfield. He was transferred later to Santa Fe Springs and then to Long Beach, where he was advanced first to district superintendent and later to his present post. Mr. Moller married Miss Myrtle Coats in Bakersfield in 1916. They reside in Long Beach and have two daughters.

THOMAS ROBATHAN and A. JOHN YOUNG, accountants for Anglo-Ecuadorian Oilfields, Ltd., arrived in New York August 22 from Guayaquil, Ecuador.

J. W. SELBY, chief scout for Shell Oil Co., Inc., Houston, Tex., is spending his vacation at his favorite fishing places along the Texas and Louisiana Gulf Coast.

J. W. WALLACE, sales representative for Texas Co. in the Tulsa district, left for a vacation at Glenwood Springs, Colo., last week, accompanied by Mrs. Wallace.

R. ELMO THOMPSON, vice president of Sunray Oil Co., Tulsa, drove to Camp Waldemar, near Hunt, Tex., last week with Mrs. Thompson, to visit their daughter, Nancy Jo.

L. L. HAINES, formerly of Oilton, Okla., is now superintendent of production in the Clay City, Ill., area, for Pure Oil Co. He succeeds H. L. PATTERSON, who was transferred to Corpus Christi, Tex.

R. L. TOLLETT has been named secretary-treasurer of Cosden Petroleum Corp., Fort Worth, Tex., to succeed J. W. LANE, who resigned to become secretary-treasurer of Motor Fuels, Inc. Mr. Tollett formerly was with Wrightsman Oil Co., Fort Worth.

CLARENCE T. SMITH, of Flora, Ill., has been elected president of the Petroleum Association of Illinois. He succeeds RAY HOSE, of Quincy, who will remain on the association's board. A. D. HOVEY, former downstate field representative of the Illinois Emergency Relief Commission, who resigned that post a month ago, was named secretary-treasurer of the oil producers' group. SAMUEL JARVIS, of Decatur, was elected vice president.

W. F. KNODE, chairman of the Petroleum and Natural Gas Conservation Board of Alberta, Canada, since June 1938, has retired from that body and entered private practice as a consulting petroleum engineer with DR. B. B. BOATRIGHT. The Conservation Board for the immediate future will consist of C. W. DINGMAN, chairman, and F. C. COTTLE, Dr. Knode continuing in a consultative capacity only.

Shifts: DICK WEGENER, engineer, H. H. Wegener Drilling Co., from Walters, Okla., to Grand Rapids, Mich.; R. B. WHITTON, engineer, Arkansas Fuel Oil Co., from Simsboro, La., to Big Sandy, Tex.; WARREN A. ALEXANDER, engineer, Carter Oil Co., from Maryville, Mo., to Aberdeen, Miss.; H. L. PELZER, superintendent, Sinclair Refining Co., from Houston, Tex., to East Chicago, Ind.; R. W. CORNES, engineer, International Geophysics, Inc., from Kilgore, Tex., to Los Angeles, Calif.; DAVID K. BEAVON, engineer, Texas Co., from Port Arthur, Tex., to Los Angeles, Calif.; R. M. LANDON, superintendent, Gulf Oil Corp., from Port Arthur, Tex., to Pittsburgh, Pa.

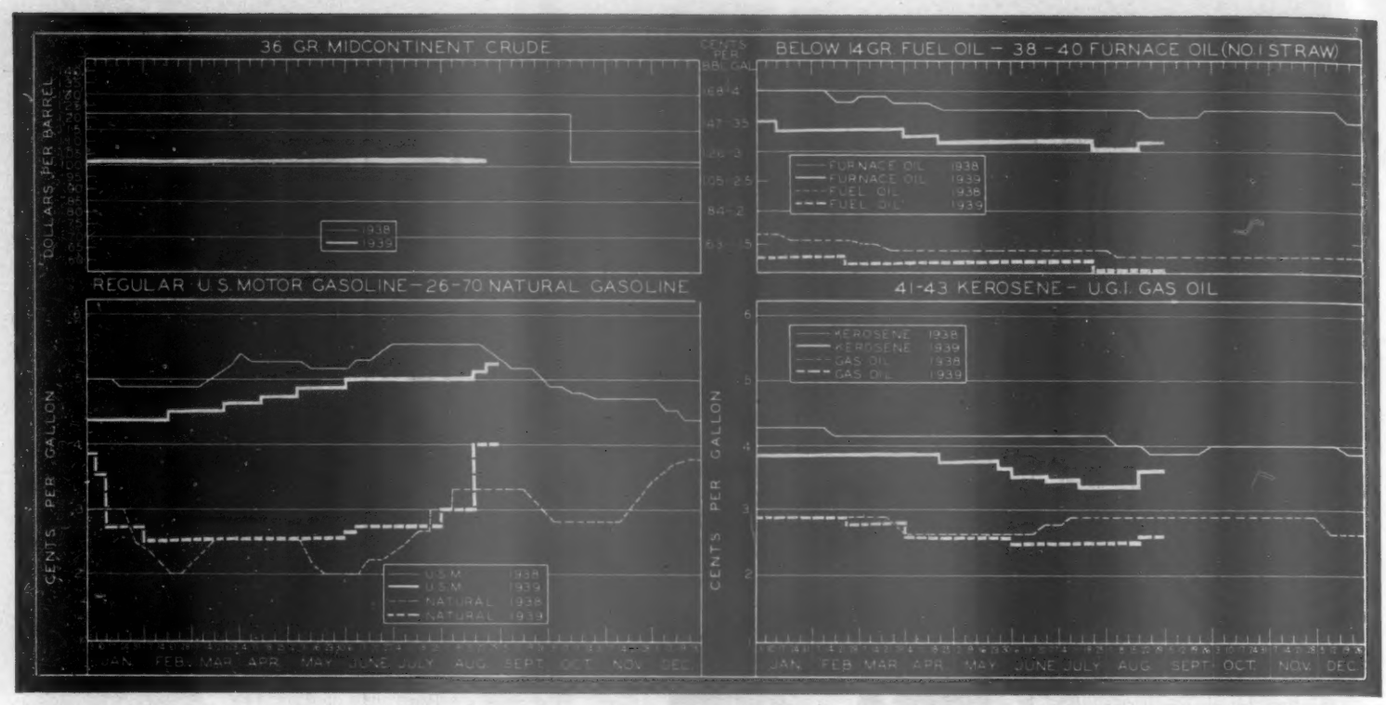
COMAR PLUMMER, assistant general manager of production for Pure Oil Co.; MAJ. RUFUS PUTNAM, chairman of the Chicago Regional Planning Commission, and WELLS ALBADE, of Consolidated Press Clipping Co., have been named by the Chicago Association of Commerce a special committee to investigate the state's oil industry and to report to the association's executive committee. In the meantime the Independent Oil Producers of Illinois, with headquarters in Centralia, is asking for a legislative program of "minimum regulation."

W. F. SNEBOLD, Fort Worth, Tex., geologist and producer, will be honored by the naming of an oil pool after him if a request of the Albany, Tex., Chamber of Commerce to the Oil and Gas Division of the Texas Railroad Commission is acceded to. The chamber asks that the Palo Pinto lime pool in northwestern Shackelford County be called the Snebold pool. Mr. Snebold, who has been in the West Central Texas district 15 years, opened a half-dozen shallow pools in that area before finding the field in Shackelford County, which now has more than 40 producers.

L. S. HARLOWE, production superintendent for Grogan Oil Co., Shreveport, La., with his family, is on a vacation in Colorado and other Rocky Mountain states.

W. H. DEARDORF, of Clayton, N. M., will succeed MARION F. PETERS as manager of the Plainview office of the West Texas Gas Co. September 1. Mr. Peters will assume charge of the Lubbock office. L. D. McCURDY, bookkeeper in the Plainview office, will be transferred to Clayton as manager of the Clayton Gas Co. He will be succeeded in Plainview by M. A. STUCKER, Tulis local manager.

BING COSBY and LEO COLEMAN, of the Westbrook production department, and EARL CYPERT, of the Colorado City land department, are in charge of arrangements for the third annual sectional picnic of West Texas employes of Magnolia Petroleum Co., to be held September 3 at Big Spring. Attendance from throughout the Permian basin is expected. H. A. AXTELL and RAYMOND LYNE, Iatan, are arranging an all-company golf tournament.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Anxiety of Group 3 Refiners Subsides As Needed Crude Stocks Are Found

By T. F. SMILEY

Anxiety over crude supplies which seized the Group 3 refinery market upon announcement of crude shutdowns in six states had subsided this week. No plants in Oklahoma had closed. Refiners who at first feared exhaustion of their crude supplies had found sources which would enable them to keep running. A strong and more orderly market prevailed. Sentiment among Oklahoma refiners was preponderantly in approval of the well shutdown, and many favored prolongation of it. A few plants in Texas and Kansas had closed.

Heavy Buying by Jobbers

When the Texas shutdown went into effect August 15, followed the next day by Oklahoma, jobbers began buying gasoline heavily, in anticipation of a famine. No famine developed, but an increasing scarcity of offerings did. Jobbers who had storage facilities used them to the fullest extent. The result was a slowing up in their orders as fast as tanks were filled, and there was no unusual activity in that division of the market.

Advances in tank-car prices brought a little more gasoline into the market, but brisk demand was absorbing all offerings. Observers familiar with market conditions declared no concessions were obtainable.

Cut-rate service stations that depend upon their ability to obtain cheap material were having a harder time during the crude holiday. No refiner who could get the published prices for his output—and all appeared to be doing it—cared to sell for less.

Brokers who for a while had been forced to turn down orders reported this week that they were not quite so hard pressed. Unwillingness to part with material under any circumstances, which had created market difficulties during the early days of the shutdown, was disappearing. True, almost all owners of gasoline stocks were rejecting some of the business offered, but most of them were taking care of regular customers. Disappointed buyers were for the most part bargain-hunters, without long-established supply channels.

The natural gasoline division, too, had shaken off much of its nervousness. Although there was a definite shortage of material, the trade had settled down to methodical procedure in making the best possible distribution of its limited supplies.

Refined Oil Market Barometer

Action of state regulatory bodies following the crude shutdowns is expected to have a marked influence on refinery prices. The present strength of the market should be preserved if crude production and refinery runs are curbed. Gasoline has continued to acquire strength as stocks decline, and there is a definite shortage of naturals except in California.

MID-CONTINENT. Gasoline vigorous. Naturals tight. Light fuels holding.

EAST COAST. Gasoline improving. Kerosene up. Heavy fuels in good position.

GULF COAST. Gasoline and fuel oils stronger, with little material available.

CALIFORNIA. Natural gasoline soft. Fuel oil weak. Motor fuel unchanged.

PENNSYLVANIA. Slightly better tone in gasoline. Lubricating oils maintain strength.

CHICAGO. Gasoline movement heavy and market firm. Heating oils steady.

Naturals Million Barrels Short

It was estimated that the crude shutdown had deprived the market of 1,000,000 bbl. of natural gasoline. This in turn would prevent some 7 to 8 million barrels of refinery gasoline from moving to consumer points until the casinghead that must be blended with it is available.

It seemed quite likely that more refiners would be hampered by want of natural gasoline than by lack of crude. The scarcity of natural presented a more serious problem for the small refiner than for the large one, who is more advantageously equipped to utilize light ends from crude and from cracking operations. Manufacturers were making every effort to aid small refiners in getting the natural they needed.

The heating oils as a group were stronger, though spottiness in the market was reported. Low stocks were said to be the rule among the smaller independent refiners, and it was said a sellers' market might easily develop as buying for cold weather expands. No. 2 straw exhibited increasing strength. Kerosene was holding. The tractor fuels, along with third-grade gasoline, were expected to be in more active demand as fall plowing operations get under way.

Rising strength of the lubricating oils in the eastern market was imparting a slightly better tone to that division in the Mid-Continent, but without any noticeable effect on quotations. Wax was steady, with Mid-Continent stocks low and export demand firm.

Bulk Gasoline Price Advanced In East by Socony-Vacuum

By H. STANLEY NORMAN

NEW YORK, Aug. 26.—Apparently reflecting the increased prices which the company has to pay for motor fuel purchased in the Mid-Continent open market, Socony-Vacuum Oil Co. on Wednesday, August 23, advanced the bulk price of gasoline at harbor refineries and terminals in New York and New England three-tenths of a cent a gallon to 6.90 cents a gallon for 65-octane material in tank-car lots. Although no other marketers here have followed suit thus far, the trade generally is expected to fall in line, as the current scarcity of wholesale gasoline in the Southwest is bound to affect this market materially. Current quotations of Standard Oil Co. of New Jersey, Gulf, Tide Water, and others range nominally from 6.25 to 6.60 cents a gallon, with most traceable business being done at the maximum figure.

There have been no general adjustments in the tank-wagon or retail markets yet, although it is anticipated Socony-Vacuum may be the first to align its quotations with the improved situation in the wholesale market. It is already reported that some minor changes have occurred in certain localities in New York and New England where quotations were subnormal, bringing them in line with the other areas.

Marketers here, meanwhile, are expressing considerable satisfaction over the present situation in the eastern motor-fuel trade. They point out that the current stability is in sharp contrast to the weakness of the market at this time last year, when Mid-Continent wholesale prices were slipping. However, it could also be mentioned that current Mid-Continent prices are still fractionally below those of last year at this time. The local trade feels, however, that any move in the southwestern market above 5 cents a gallon for 63-66-octane gasoline would be immediately reflected by a general advance in quotations in the East. The fact that refinery stocks of motor fuel in the Atlantic-seaboard area are slightly higher than those of August 1938 is believed to be holding back an advance at this time except by those concerns which apparently are not in an average inventory position.

Motoring weather during the past week has been exceptionally good, and the resulting volume of business has been a stabilizing factor in the situation in addition to the abnormal conditions in the Southwest. Service-station operators report that tourist traffic is showing a belated upturn. The European tension has helped domestic tourist trade, if anything, as many vacationists who had planned foreign trips are evidently touring the United States instead. An unusually large number of foreign car licenses is in evidence in the East, but of course these are not a factor except as indicating the present travel trend.

Still another factor which is holding back the local gasoline market is the uncertainty regarding conditions at the close of the 15-day oil-production shutdown period. Some marketers here fear there will be a downward reaction, if at the end of the shutdown period production is resumed at its pre-shutdown level. The opinion is expressed by some executives here that lower allowables, particularly in Texas and Louisiana, will be necessary to support any further improvement in the refined-oil-market situation. If reduced takings are decided on, it should influence the eastern markets almost immediately in the direction of stability, in the opinion of observers.

Following recent improvement in furnace oils, Standard Oil Co. of New Jersey on Friday, August 25, advanced the tank-car price of kerosene ¼ cent a gallon at Bayonne, N. J., bringing the new quotation to 4½ cents a gallon. The advance is the first of the season; and while due to improved buying in this territory, it also reflects a firm market in the Southwest.

Also, as of August 22, Socony-Vacuum Oil Co. advanced the tank-wagon price of kerosene throughout New York State and New England, with the exception of Buffalo and Rochester, ¼ cent a gallon.

Contrary to this improved trend in the eastern markets generally, Standard of New Jersey has made some minor downward readjustments in certain sections of the South in kerosene and heating oils. These are attributed more to local competitive conditions than to any basic market trend. On August 23 the company cut the dealer tank-wagon price of kerosene at Nashville, Tenn., 1 cent a gallon to 11.5 cents a gallon.

Although no changes have been announced here in the market for industrial fuel oils or Bunker C fuel oil, this is due largely to the inactivity of these markets at present. Some marketers believe the Mid-Continent shutdown will affect them even more than it will the motor-fuel situation, due to the fact that fuel-oil stocks in the eastern territory are well below last year's levels and that the period of increased demand is now approaching, whereas gasoline consumption may begin to fall off seasonally within the next few weeks. Most of the decline in fuel-oil stocks in the United States during the past year has occurred at Atlantic Coast plants. These refiners, unable to bring in heavy fuel oil from South America, due to import-tax restrictions, may face a rather tight supply situation as a result of the 15-day shutdown in the Mid-Continent, but this may not be apparent until around October 1. A more-than-average advance in prices may occur by that time in the eastern territory, according to the opinion of some local marketers.

Exporters of petroleum products report a continued firm export market with a substantial trend toward a shift in the destination of products as a result of the current European crisis. Increased spot shipments to Japan and Germany have been noted and a substantial upturn in exports to South American countries is also reported.

The improvement in South American trade is attributed to the changed trend of the tourist trade away from Europe and the Far East toward South America and to completion of many new important highway projects in South America. This has resulted in an increase in the consumption of both gasoline and lubricating oils to all-time record levels in many South American countries. The United States is supplying a generous proportion of this increased export business.

A. P. I. Weekly Refinery Statistics

Week Ending August 26, 1939

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	578,000	20,230,000	12,023,000
Appalachian	85.9	112,000	3,198,000	609,000
Indiana, Illinois, and Kentucky	89.5	487,000	11,433,000	6,640,000
Oklahoma, Kansas, and Missouri	81.6	260,000	6,167,000	4,504,000
Inland Texas	50.3	115,000	1,638,000	2,318,000
Texas Gulf	90.0	848,000	8,220,000	12,641,000
Louisiana Gulf	97.6	137,000	1,934,000	3,002,000
North Louisiana and Arkansas	55.0	41,000	467,000	910,000
Rocky Mountains	54.2	47,000	1,110,000	675,000
California	90.0	502,000	14,058,000	94,722,000
Total reported	86.0	3,127,000	68,455,000	138,044,000
Estimated unreported	.....	348,000	5,020,000	3,230,000
*Estimated total	.....	3,475,000	73,475,000	141,274,000
*Estimated total previous week	.....	3,575,000	74,738,000	140,025,000
*August 27, 1938	.....	3,269,000	71,893,000	146,328,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending August 19, 1939	262,486,000 barrels
Week ending August 12, 1939	267,536,000 barrels
Week ending August 20, 1938	285,137,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Continental Recreation And Office Building

An office and employes' recreational building to house a gymnasium, swimming pool, and employes' cafeteria, and division marketing offices is being constructed by Continental Oil Co. at Ponca City, Okla.

The building, which will be 244 ft. by 165 ft., is being built in four connected wings around an open court, in which the swimming pool will be located.

Operation of the gymnasium and swimming pool will be turned over to the Conoco Employes Association, an independent organization which has as its objectives cooperative educational, social and athletic activities.

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of August 29, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wag.	Dir.	Inc. tax	tank wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	13.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	*6.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.8
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	15.8	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.7
South Bend	17.1	15.6	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	12.9	4.0	7.9
Wichita, Kans.	13.9	10.6	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gal. or more, 1.5 cents off; minimum delivery 25 gal.

Stanolex Fuel Oil in Chicago

Effective June 1, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gal., 9 cents; 100-149 gal., 8 cents; 150 gal. and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex furnace oil, 1-149 gal., 8.25 cents; 150-399 gal., 7.25 cents; 400 gal. and over, 6.75 cents. Stanolex Grade A, 1-399 gal., 5 cents; 400 gal. and over, 4 cents. Stanolex Grade B, 1-799 gal., 5 cents; 800 gal. and over, 4 cents. Stanolex Grade C, 1-999 gal., 4.25 cents; 1,000 gal. and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Tank-wag. cons'r.	Divided dlr.	Inc. tax	Kero. tank wag.
Ohio points	15.5	14.5	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons'r. tank car	Dlr. tank wag.	Inc. tax	tank wag.
Atl'tic City, N. J.	10.9	12.7	4.0	7.0
Newark	10.9	12.7	4.0	7.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	10.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	10.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.40	17.90	7.0	11.8
Hickory	15.95	18.45	7.0	12.3
Mt. Airy	15.80	18.50	7.0	12.2
Raleigh	15.15	17.65	7.0	11.5
Salisbury	15.45	17.95	7.0	11.9
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.10	17.60	7.0	11.5
Spartanburg	15.80	18.30	7.0	12.2

Price basis to Essolene undivided dealers: Dealer tank-wagon price less 0.5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases: From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r. tank-wag.	Net dlr.	Inc. tax	tank-wag.
Atlanta, Ga.	20.5	17.5	7.0	9.0
Augusta	20.0	17.0	7.0	9.0
Macon	20.0	17.0	7.0	10.0
Savannah	19.0	16.0	7.0	8.0
Birmingham, Ala.	21.0	18.0	8.0	8.5
Mobile	21.0	18.0	9.0	8.5
Montgomery	22.0	19.0	9.0	10.5
Jackson, Miss.	19.0	16.0	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	20.0	17.0	8.0	7.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	17.0	14.0	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons. tank-car	Dlr. tank-wag.	Inc. tax	tank-wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	13.0	14.5	5.0	10.5
Altoona	13.0	15.0	5.0	10.5
Dover, Del.		14.0	5.0	10.5
Wilmington		13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

*Voluntary discount of 1 cent allowed to dealers only.

Discount on kerosene, 2 cents per gallon off tank-wagon price on tank-wagon deliveries of 25 gal. or more at one time.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons. tank-car	Dlr. tank-wag.	Inc. tax	tank-wag.
Albany	11.5	13.5	5.0	7.25
*Met. N. Y.:				
Manhat., Bronx	11.6	13.0	5.0	7.00
Queens, Br'klyn	11.6	13.0	5.0	7.00
Staten Island	11.6	13.0	5.0	7.00
Buffalo	12.5	13.5	5.0	7.50
Rochester	12.6	14.0	5.0	7.75
Syracuse	12.2	13.5	5.0	7.50
Boston	10.5	12.25	4.0	6.75
Portland, Me.	11.5	13.5	5.0	7.00
Manchester, N.H.	12.2	13.2	5.0	7.50
Burlington, Vt.	12.0	13.5	5.0	7.50
Springfield, Mass.	11.2	12.5	4.0	6.25
Worcester	11.0	12.5	4.0	7.25
Hartford, Conn.	10.9	13.0	4.0	6.75
New Haven	10.8	12.25	4.0	6.25
Providence, R. I.	10.5	12.3	4.0	6.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gallons receive a discount of one-half cent per gallon.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-truck	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle ,Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes .25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank-wag.	Dlr.	Incl. tax	tank-wag.
Denver, Colo.	14.0	...	5.0	11.5
Grand Junction	18.5	...	5.0	15.0
Pueblo	16.0	...	5.0	9.0
Casper, Wyo.	17.5	...	5.0	11.5
Cheyenne	15.5	...	5.0	13.0
Billings, Mont.	18.5	...	6.0	13.0
Butte	20.0	...	6.0	15.5
Great Falls	19.5	...	6.0	15.5
Helena	20.5	...	6.0	15.5
Salt Lake, Utah	17.5	17.5	5.0	16.0
Boise, Idaho	20.6	20.6	6.0	18.0
Twin Falls	21.1	21.1	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	15.5	15.5	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Tank-wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons. tank-car	Dlr. tank-wag.	Inc. tax	tank-wag.
New Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	†10.5
Alexandria	14.75	17.25	8.0	†12.5
Lafayette	15.00	17.50	8.0	†11.0
Lake Charles	14.75	17.25	8.0	†12.5
Shreveport	13.50	16.00	8.0	†11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	11.0
Chattanooga	17.5	19.5	8.0	12.0
Nashville	17.00	19.50	8.0	11.0
Bristol	18.25	17.00	8.0	13.0

Essolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon price. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less 0.5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gal., consumer tank car plus 2 cents per gallon; 50 to 199 gal., consumer tank car plus 1 cent per gallon; 200 gal. and over, consumer tank car plus 0.5 cent per gallon.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank wag.	Dlr.	Inc. tax	tank wag.
Omaha	17.5	16.0	6.0	10.3
McCook	16.5	12.9	6.0	9.0
Norfolk	17.0	15.9	6.0	9.0
North Platte	18.3	16.8	6.0	11.1
Scottsbluff	18.0	15.0	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Tank wag.	Includes tax	tank wag.
Texarkana, Ark.	14.0	5.0	8.0
Fort Smith	14.0	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	13.0	5.0	7.0
Oklahoma City	12.0	5.0	6.5
Tulsa	13.0	5.0	7.0

The tank-wagon price is the price to all classes of trade.

Texas

	Gasoline			Kero.
	Tank wag.	Serv. sta.	Inc. tax	tank wag.
Dallas, Tex.	14.0	18.0	5.0	7.0
Fort Worth	15.0	19.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax nor 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gal. lots if covered by contract.

Canada*

3-Star Imperial Gasoline

IMPERIAL OIL, LTD.

	Tank wag.	Inc. tax	Kero. tank wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0*	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Int.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.9
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.9
Edmonton, Alta.	19.4	7.0	21.4
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. (Kentucky) August 22 reduced consumer tank-wagon and net dealer gasoline 1.5 cents in Paducah; August 21, reduced consumer tank-wagon and net dealer gasoline 0.5 cent in Macon.

Standard Oil Co. of Louisiana August 23 reduced tank-wagon kerosene 1 cent in Nashville.

Socony-Vacuum Oil Co., Inc., August 22 advanced tank-wagon kerosene 0.25 cent throughout New York and New England, except in Buffalo and Rochester.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of August 29, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
64-66 375		.04⅝
68-70 360	.05	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400	.04½	.04⅝
64-66 375		.04⅝

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
67-69 octane	.05	.05⅛
70-72 octane	.05¼	.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
60-62 400 grades:		
62 octane and below	.04½	.04⅝
63-66 octane	.04¾	.04⅞
67-69 octane	.05	.05⅛
70-72 octane (regular)	.05¼	.05⅜
68-70 360	.05	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04½	.05
65 octane	.06¼	.06¾
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06¼	.08
58-60 400, 65 oct. and higher	.07¼	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06½
Philadelphia	.06	.06¼
Baltimore	.06	.06¼
Charleston, S. C.	.06½	.06¾

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ¼ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.04½	.04⅝
65-67 octane		.05¼
68-70 octane		.05¾

Naphtha

PENNSYLVANIA (inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70		.04
Grade 18-55	.04⅝	.04¾

NORTH TEXAS—

Grade 26-70		.04
Grade 18-55	.04⅝	.04¾

CALIFORNIA—

75-85 375-390	.05½	.06½

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.04⅝	.04¾

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110-flash, 540-550 e.p.	.03½	.03⅝
41-43 gr., 300-320 i.b.p., 110-125 flash, 500-520 e.p.	.03⅝	.03¾
46-48 gr., 210-230 i.b.p., 480-max., e.p.	.03⅞	.04⅛

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

NORTH TEXAS—

41-43	.03⅝	.03¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43	.04¼	.04¼

PENNSYLVANIA (inland refineries)—

45	.04⅞	.05
46	.05	.05½
47	.05½	.05¼

CHICAGO (Based on Group 3)—

41-43	.03⅝	.03¾
42-44	.03¾	.03⅞

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43		.04⅝

GULF COAST (domestic)—

41-43	.03½	.03⅝

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03⅝	.03½
No. 1 prime white, 38-42	.03¼	.03⅝
No. 1 straw, 38-40	.03⅛	.03¼
No. 2 straw, 32-36	.03	.03⅛
No. 2 dark, 32-36	.02¾	.02⅞
No. 3 zero to 15, 28-32	.02⅝	.02¾
No. 3, 15 and above, 28-32	.02½	.02⅝

NORTH TEXAS—

No. 1 prime white, 38-42	.03¼	.03⅜
No. 1 straw, 38-40	.03⅛	.03¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36	.03	.03⅛

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36	.03⅜	.03½

CHICAGO (Based on Group 3)—

Range oil	.03⅜	.03⅝
No. 1 prime white, 38-40	.03⅜	.03½
No. 1 straw, 38-40	.03¼	.03⅜
No. 2 straw, 32-36	.03⅛	.03¼
No. 2 dark, 32-36	.03	.03⅛
No. 3, zero to 15, 28-32	.02⅞	.03
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.04	.04¼
*No. 2		.03¾
*No. 4		.03¾

*Barge deliveries ⅛ to ¼ cent under above tank-car price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 4 low pour point, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.85	.90
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH TEXAS—

U.G.I. gas oil	.02⅝	.02¾
No. 4, low pour point, 24-28	.95	1.00
No. 5, low pour point, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02⅞
No. 4, low pour point, 24-28	.100	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pour point, 18-22	.70	.80
No. 5, 15 and above, 18-22	.60	.70
No. 6, low pour point, 10-16	.60	.70
No. 6, 15 and above, 10-16	.35	.45

PENNSYLVANIA (inland refineries)—

36-40	.04¼	.04⅝

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.30
24 plus diesel, per bbl.	.80	1.15
24 plus diesel (bunkers)	1.15	1.30
12-16 (bunkers at tidewater)	.70	.90
10-16 (cargo lots)	.60	.70
12-17 (tank cars)	.50	.90
10-17 (high sulfur)	.45	.85
San Joaquin Valley:		
10-18 (tank cars)	.50	.75
24 plus diesel, per bbl.	.90	1.20
San Francisco:		
24 plus diesel, per bbl.	1.30	1.45
24 plus diesel (bunkers)	1.35	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel	.03½	.03¼
43-47 diesel		.03¼
48-52 diesel	.03¼	.03⅜
53-57 diesel	.03⅜	.03½
Bunker C (bulk cargoes)	.77	.80
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.04
28-30 diesel (lighterage 6¼c per bbl.)		1.65
28-30 diesel (tank cars)	.04	.04¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.05
Industrial fuel (tank cars)		.03¾

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam-refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pour point	.19	.20
15 pour point	.18	.19
25 pour point	.16	.17
Steam-refined:		
600	.08½	.10
650	.10½	.11
600 flash	.11	.12
630 flash	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3	.09
180-3	.10
180-4	.09½
200-3	.10½
200-4	.10
250-3	.11½
250-4	.11
280-3	.12½
280-4	.12
300-6½	.13
400-3½	.14
100-2½ paraffin oil	.06
15-20 pour point:	
200-3	.10
200-4	.09½
250-3	.11
250-4	.10½
280-3	.12
280-4	.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07½	.07⅝
500-3½	.08⅛	.08¾
750-3½	.08⅝	.09⅛
1,200-3½	.09⅛	.09⅝
1,500-4	.09⅝	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07⅞
500-5-6	.08	.08⅜
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pour point	.18½	.19
10 pour point	.18	.18½
15 pour point	.16½	.17
25 pour point	.15	.15½
200 vis. at 70° F., 3 color:		
Zero pour point	.20	.20½
10 pour point	.19½	.20
15 pour point	.19	.19½
25 pour point	.17½	.18

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (A.m.p.) w.c. scale	.0285	.08

PENNSYLVANIA (inland refineries)—

122-124 (A.m.p.) w.c. scale	2.90	3.00
124-126 (A.m.p.) w.c. scale	2.90	2.95

NEW YORK—

Wax in bags fully refined:		
123-125 (A.m.p.) wax		.0375
125-127 (A.m.p.) wax		.0390
128-130 (A.m.p.) wax		.0400
130-132 (A.m.p.) wax		.0435
133-135 (A.m.p.) wax		.0465
135-137 (A.m.p.) wax		.0490
124-126 (A.m.p.) w.s.	.0290	.03
124-126 (A.m.p.) y.s.	.0295	.03
Petrolatum in barrels, carload lots:		
Dark green	.02	.02½
Amber	.02⅝	.02½
Extra amber	.02⅝	.02¾
Lily white	.05½	.05¼
Snow white	.06½	.06¼
Cream	.04½	.04¼

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04½	.04⅝
60-62 400	.04⅝	.04½
65 octane	.04½	.05
68 octane	.05¼	.05¼
70 octane	.05½	.05⅝

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04¼	.04½
65-69 octane	.04½	.04¾
Above 69 octane	.04¾	.05¼

KEROSENE

GULF COAST—

41-43 prime white		.03½
41-43 water white		.03⅜

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.o.s.) in bbls.)—

Cylinder stocks:		
600 S.R. unfiltered	.15½	.16
650 S.R. unfiltered	.17½	.18
600 flash, S.R.	.18	.18½
630 flash, S.R.	.20½	.21
Bright stocks:		
8 color	.23½	.24

NEUTRAL OIL

200-3 color	.24	.24½
150-3 color	.22	.22½

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 A.m.p.		.03625
125-127 A.m.p.		.0375
128-130 A.m.p.		.0400
133-135 A.m.p.		.0425
135-137 A.m.p.		.0465
Crude scale:		
124-126 w.s.	.0285	.0290
124-126 y.s.	.0280	.0285

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1938 High	1938 Low	Week ending Aug. 26 High	Week ending Aug. 26 Low	Week ending Aug. 26 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
70	50	59	57	59	Amerada Corp.	788,675	N.P.	50cQ	7-1-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
23½	18½	19¼	18⅜	18⅜	Atlantic Refining	2,663,999	$25	25cQ	9-15-39	1.00	1.40	3.51	27⅜	17⅜	37	18
21½	10¼	11½	10¼	10⅜	Barber Asphalt Co.	390.223	$10	75c	12-16-37	....	—.85	1.91	23¾	12⅛	43⅜	10⅛
19½	11⅛	12⅝	11⅛	12⅝	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-39	1.00	1.26	.85	21⅜	10⅛	35¼	10
9¼	6½	7⅛	6½	7⅛	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	8-15-39	.80	.55	1.48	10⅜	7	17⅜	7
31½	19⅞	21⅝	19⅞	21½	Continental Oil of Delaware	4,682,581	$5	25cQ	9-28-39	‖1.00	1.10	2.98	35⅜	21¼	49	24
8⅜	4⅝	5	4⅝	5	Houston Oil (new)	1.098.618	$25		10-17-30	....	.83	.94	9⅜	5	17⅝	4⅜
20¼	10	12	10	11½	Lion Oil Refining	435,815	N.P.	25cQ	7-25-39	1.00	2.09	2.17	25⅛	15⅝	34	12½
16½	11⅛	12⅝	11⅞	12½	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅜	14
14⅞	8⅜	9¼	8⅜	9¼	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	5⅝	7¼	5⅝	7	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	....	—.79	4.90	23	12¼	41⅜	17⅝
10¼	6	6⅜	6	6¼	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅞	22⅞	8
11⅞	7½	7⅞	7½	7½	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29⅜	11¾
6⅜	5	5½	5¼	5¼	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	.08	1.18	9¼	6¼	17⅝	7
43¾	31¼	34½	31⅞	34½	Phillips Petroleum	4,449,052	N.P.	50cQ	9-1-39	‖2.00	2.03	5.42	44⅝	27¼	64	30⅛
22½	17¼	18⅜	17⅝	18	Plymouth Oil Co.	1,006,200	$5	35cQ	9-30-39	1.40	2.59	2.85	25⅜	15	29⅞	13
11¼	6⅛	6⅞	6⅛	6⅞	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	.38	2.15	13½	8¼	24⅜	8⅜
10¾	6⅝	7⅜	6⅞	7⅜	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅞	5	6⅛	4⅛
22⅜	15½	17	15½	17	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	9-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
15⅛	9⅞	11	9⅞	10½	Shell Union Oil	13,070,625	N.P.	25c	7-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29½	15½	17	15½	17	Skelly Oil	995.349	$15	50c	12-15-38	1.00	2.27	6.07	34⅜	18½	60⅝	26½
13¾	10¼	11¼	10¼	11¼	Socony-Vacuum	31,206,071	$15	25cSA	9-15-39	.50	1.29	1.82	16⅝	10⅜	23¼	13
30⅛	24⅜	25¼	24⅜	25	Standard Oil of California	13,004,153	N.P.	25cQ	9-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
29⅛	23¼	24⅛	22⅝	24	Standard Oil (Indiana)	15,272,020	$25	25cQ	9-15-39	1.00	1.82	3.66	35½	24⅜	50	26⅛
53¼	38½	40½	38	39⅞	Standard Oil of New Jersey	26,618,065	$25	50c¶	6-15-39	‖1.50	2.86	5.64	58⅝	39⅜	76	42
66	46	50	48	50	Sun Oil	2,316,484	N.P.	25cQ	9-15-39	1.00	1.07	3.86	65⅛	45	77½	44½
3¼	1⅞	1⅞	1¾	1¾	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1⅜	7⅜	1½
48¼	32½	35⅝	33	35⅝	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65⅛	34⅜
5⅜	3¼	3⅝	3¼	3⅝	Texas Gulf Producing Co.	888,143	N.P.	10c	6-15-39	.15	.86	.68	5⅞	2⅝	9⅝	2
10⅛	7	7⅜	7	7⅜	Texas Pacific Coal & Oil	888,236	$10	10c	9-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	9½	10⅛	9½	10⅛	Tide Water Associated	6,375,253	$10	15c	9-1-39	1.00	1.28	2.08	15⅜	10⅛	21⅝	13⅛
19¾	15⅛	16	15⅛	15½	Union Oil of California	4,666,270	$25	25c	8-10-39	1.20	1.47	2.58	22½	17⅛	28⅛	17½
23⅝	20⅛	21⅞	21	21	Union Tank Car Co.	1,177,381	N.P.	30cQ	9-1-39	1.30	1.16	1.70	23½	20	31½	22
3¾	2⅜	2⅝	2½	2⅝	Wilcox Oil & Gas	487.568	$5		5-10-28		.52	.24	3½	1⅝	6¼	1⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. ‖Also 1½ per cent stock dividend. ¶Also right to subscribe to bonds. ¶Also 1 per cent in stock. —Deficit.

New York Curb Exchange

1939 High	1939 Low	Week ending Aug. 26 High	Week ending Aug. 26 Low	Week ending Aug. 26 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
9	5½	6	5⅝	5⅝	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11¾	5	10	6⅝
7¼	2⅝	3¼	2½	3	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10¼	4⅞	21⅜	7
34¾	27¼	..	..	..	Buckeye Pipe Line Co.	200,000	$50	50c	9-15-39	2.00	2.36	4.02	39	22½	51½	36
130	110	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	9-25-39	6.50	5.32	6.73	128	97	112	95½
9¼	4½	5	4½	5	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5½	5⅝	1⅜
2⅛	½	1½	1¼	1⅜	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅜	⅞	5½	1½
23¾	16¾	18½	17⅝	18	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17½	38⅜	20¼
7⅛	3⅝	4	3¾	4	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.3[a]	10¼	5½	18⅝	6½
2⅜	1⅝	1⅝	1½	1½	Derby Oil & Refining	263,162	N.P.			....	—.91	1.34	3½	1½	8⅝	2¼
20	15⅛	17	17	17	Eureka Pipe Line	50,000	$50	50c	6-1-39	3.00	—.37	—.12	31	16	47½	24½
40	29¼	32	30⅛	32	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-39	1.00	1.43	3.51	46⅞	33	63¼	33
69⅜	52½	54¼	52½	54¼	Humble Oil & Refining	8,987,840	N.P.	37½c	7-2-39	3.00	3.98	5.22	72⅝	56	87	54⅞
17	14	14⅞	13⅞	14⅛	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24¼	14½
7	5⅝	5⅜	5⅜	5⅜	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅝	6	15	5⅞
27½	18½	20⅜	17½	19¼	International Petroleum	14,324,088	N.P.	1.00†‡	6-1-39	2.50	1.98	....	31¼	21	39½	23½
3½	2¼	2⅜	2⅛	2⅛	Kirby Petroleum Co.	500.000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8⅜	2⅝
9½	7⅛	8¾	8¼	8¼	Lone Star Gas	5,553,747	N.P.	20c	8-21-39	.60	.88	1.14	10⅝	6⅝	14¼	5¼
7⅝	4	4¼	4	4	Louisiana Land & Exp.	2,977,449	$1	10cQ	9-15-39	.45	.45	.58	9⅝	6½	15¼	6⅝
17	14½	..	..	..	Margay Oil Corp.	149,943	N.P.	25cQ	7-10-39	1.00	2.28	3.26	24	16	33½	17
8¾	7	7	6⅞	6⅞	Midwest Oil Co.	998,474	$10	45c	6-15-39	1.00	.93	1.14	9¾	6⅝	14⅝	6¼
5½	4⅞	5⅛	5	5	Mountain Producers	1.593.584	$10	30cSA	6-15-39	.60	.62	.76	5⅝	4½	7⅞	4⅛
13¼	11¼	12¼	11⅞	12	National Fuel Gas	3,810,183	N.P.	25cQ	7-15-39	1.00	.84	.96	14⅝	11½	19½	12
8½	7¼	7⅝	7⅝	7⅝	National Transit	509,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1⅝	1½	1⅝	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅝	1½	5	1⅛
4⅞	4	4⅛	4⅛	4⅛	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅝	3⅞
6	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12⅜	5⅝
7⅝	4¼	4⅞	4⅛	4½	Pantepec Oil	2,857,000	$1	....	....	....	....	....	7⅝	3½	9⅝	2¾
2¾	1¼	1¾	1⅝	1⅝	Root Petroleum Co.	336.045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12¾	2
3	1⅞	..	..	..	Ryan Consolidated	298.931	N.P.			....	.29	.46	4	2⅛	6½	2¼
4	3½	..	..	..	Southern Pipe Line	100,000	$10	15cSA	9-1-39	.30	—.27	.85	5⅝	3¼	7⅛	3⅜
34⅞	26¾	27½	26¾	27	South Penn Oil	1,000,000	$25	37½cQ	6-30-39	1.75	1.44	4.64	39	28¾	56	35
19¾	18	..	..	..	Southwest Penna. Pipe Lines	35.000	$50	50cQ	7-1-39	2.00	—.41	.95	22¼	16½	42	20
18⅞	17¼	18½	17⅞	18	Standard Oil of Kentucky	2,604,790	$10	25c	9-15-39	1.25	1.45	1.60	18⅜	15	21⅛	14¾
16	6	16	15⅝	15⅞	Standard Oil of Nebraska	161.403	$25	25c	3-29-37	....	—.69	—.58	8¾	5½	13⅜	8
24¾	17	23	21¼	21¼	Standard Oil of Ohio	753,740	$25	25c	9-15-39	1.00	1.81	3.67	22¾	16¼	45	16
2⅝	1¾	2⅛	1¾	1⅞	Sunray Oil	2,007,076	$1	5c	4-27-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	3	2⅞	2⅞	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
5½	2½	3⅛	3	3	Transwestern Oil Co.	750,000	$10			....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅜	1⅝	1⅞	1⅝	1⅝	United Gas Corp.	7,818,959	$1	....	....	....	—.51	25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. —Deficit.

New or Improved Equipment

Bovaird Announces Pump Built for Severe Oil-Field Service

The Bovaird Supply Co., Tulsa, has put on the market a new centrifugal pump for severe oil-field service, particularly suitable for salt-water pumping, drainage

or other purposes involving corrosive or sediment-carrying waters; also perfectly suitable for clear-water service. Its principal features are a special open-type impeller that is practically self-cleaning, since it is fitted closely to the back plate as well as the outside cover; an outside plate that can be removed without breaking pipe-line connections, if necessary to clean impeller or repair pump; equipped with Timken roller bearings and stainless-steel shaft; end plate has "feeler" plug so that impeller may be checked without taking the plate off.

This pump is available as a single unit or as a twin unit mounted on a steel skid, V-belt driven, with idler, as illustrated. The twin unit is available mounted complete, V-belt driven to gas-gasoline engine or electric motor. The single pump may be direct-connected with flexible coupling, or V-belt driven to gas-gasoline engine or electric motor.

Barkley-Grow to Send Cruiser Through Southwestern Area

Barkley-Grow Aircraft Corp., of Detroit, Mich., manufacturer of the bimotored, Wasp-powered, 10-place Barkley-Grow airplane, recently received an invitation from several officials of South American governments to send one of its ships to provide a demonstration. It was of importance that the pilot be thoroughly conversant with the type of flying he would encounter. Often air trails in those countries require flying at altitudes of 18,000 ft. or higher. There are long stretches of coastline and deserts along the west slope of the Andes where safe landings are almost impossible. Also, the pilot should be familiar with customs, social and business.

Barkley-Grow engaged Frank Cordova, who has had experience with Latin-American neighbors while conducting an aircraft sales agency at New York. Mr. Cordova left the factory at Detroit and after stopping at Brownsville, Tex., made demonstrations at Tampico, Vera Cruz, and Mexico City, Guatemala, Managua, Cristobal, Bogota, Cali, and Lima. He then made the long hop down the coast to Santiago, Chile.

Now it is planned for Mr. Cordova to take one of the latest Barkley-Grows, equipped as a business cruiser, on a tour of the Southwest. This is a special executive air yacht, combining modern material and colors to provide a beautiful, practical, and comfortable interior. Stress is placed upon the ability of the Barkley-Grow to operate from small fields.

"In designing this ship," the company says, "we had in mind the necessity of providing a high-speed modern transport airplane which could be operated in and out of temporary airports and from dusty, sandy terrain and at high altitudes in mountainous regions without the necessity of frequent servicing and with the inbuilt characteristics of safe operation under most difficult operating conditions."

The location and routing of the ship on this tour will be frequently wired to the offices of The Oil and Gas Journal so that readers may determine the location of the ship and arrange for demonstrations by wire or phone.

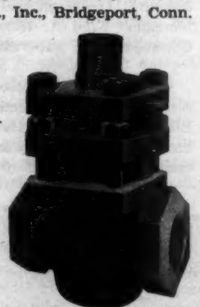
Available in Many Combinations

Elastic Stop Nut Corp., 1015 Newark Avenue, Elizabeth, N. J., announces that, in addition to its standard line of self-locking nuts, these nuts now can be furnished on order in any metal and in any combination of style, size, and thread system. Elastic stop nuts incorporate a resilient nonmetallic collar, which takes up all thread play. According to the manufacturer this establishes a constant thread contact, which holds the nut in position on the bolt regardless of vibration or wear of surrounding parts.

They were developed originally for pneumatic tools and other apparatus subject to heavy vibration, and now are widely used on mechanical equipment in various industries.

Pressure on Plug and Packing Can Be Controlled Separately

A new line of asbestos groove-packed iron cocks has been announced by the Reading-Pratt & Cady Division of American Chain & Cable Co., Inc., Bridgeport, Conn. They have the usual gland to hold the plug in position and an additional gland to compress the top packing. Pressure on the plug and packing can be controlled separately.

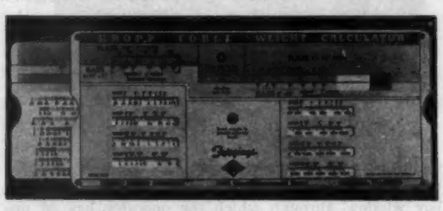


This new design greatly reduces the effort required to operate the cock, and there is less wear on the moving parts.

Alemite lubrication is provided through a groove between the top of the plug and the top gland. R-P&C dual gland cocks are made in sizes from 1½ to 6 in. for 125 and 250-lb. steam pressures. For corrosive or high-temperature services they can be supplied made from Ni-Resist (nickel-chrome) iron.

Kropp Offers Handy Calculator for Swift Finding of Weights

Kropp Forge Co., 5301 West Roosevelt Road, Chicago, has had prepared a handy calculator for rapidly determining the weights of forged square, round, hexagonal, and octagonal flats and bars and forged rings



and blanks. No computation is necessary. It is needful to know only the dimensions of any of the forged shapes covered by the calculator to determine instantly its weight.

These Kropp forgings weight calculators are available at a small charge to partially cover the cost of producing and mailing, and they are expected to prove a source of helpfulness and a time-saver for all users of forgings.

Butler Receives Big Contract

An order awarded to Butler Manufacturing Co., Kansas City and Minneapolis, by the U. S. Government calls for delivery by October 15 of 14,500 special steel buildings amounting to a total of $2,303,975. To make scheduled delivery without interruption of prompt service on regular lines to its regular trade, the company hurriedly purchased and installed $125,000 worth of additional machinery. More than 500 additional men will be put to work. Three factory shifts will be used. A bonus of 10 per cent on wages and salaries will be paid upon completion of the contract on schedule.

Smooth Weld for Finish Beads

A new arc-welding electrode, which will facilitate finishing operations on welded products by eliminating the need of dressing or smoothing welded seams in many applications, is announced by Lincoln Electric Co., Cleveland, Ohio. The "Fleetweld 10" is designed particularly for finish bead welding on U-groove welding in downhand position. It provides full slag coverage and a weld deposit of exceptional smoothness. The bead is uniform and regular without square shoulders. The metal smooths out evenly during welding and the line of fusion with the base metal is practically unnoticeable.

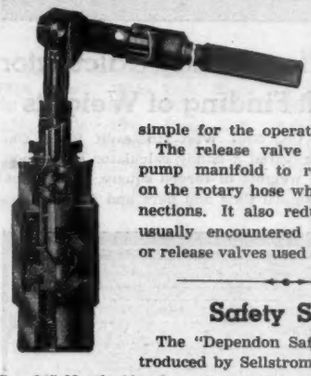
SHIPMENT OF FRACTIONATING COLUMNS TAKES 10 CARS

A recent shipment from Tulsa Boiler & Machinery Co., Tulsa, consisted of 10 carloads of Tulsa-Type fractionating columns for a Texas treating plant. Two of the columns were 5 ft. 6 in. in diameter and 73 ft. 6 in. in height. Two others were 6 ft. 6 in. in diameter and 73 ft. 6 in. in height. These were built of ⅝-in. flange-quality steel plate with ⅝-in. flange-quality ellipsoidal heads. They were equipped throughout with bubble trays having stainless-steel caps.

One other column of 6-ft. diameter was 40 ft. long, with flash-chamber shell built of ⅞-in. fire-box-quality plates and ⅞-in. fire-box-quality ellipsoidal head.

Improvement in Release Valve Introduced by Manufacturer

The American Iron & Machine Works Co., Oklahoma City and Houston, announces an improvement in the American release valve. A shockproof handle is now being installed on the release valve, which, it is claimed, makes the operation easy and simple for the operator.



The release valve is used on the pump manifold to release pressure on the rotary hose when making connections. It also reduces difficulties usually encountered with stopcocks or release valves used on slush pumps.

Safety Shield

The "Dependon Safety Shield," introduced by Sellstrom Manufacturing Co., 615 North Aberdeen Street, Chicago, and designed to protect the eyes and face, might be likened to a small bay window, through which the operator has an unobstructed view. The window material is synthetic, made to withstand heat, sparks, and acids. It is so removed from the face as to allow ventilation, and the wearing of prescription glasses or goggles. This material is available either in clear or tinted effect, and is made in various depths from forehead to chin.

Hose for Refueling Airplanes Is Resistant to Oily Substances

Performance reports on a new type of airplane refueling hose recently announced by B. F. Goodrich Co. reveal that a synthetic rubberlike substance has been developed to fill the need of the aviation industry for a hose that will not deteriorate in the presence of gasoline and other petroleum products. Tests by major oil companies which have refueling contracts at airports throughout the nation are said to have confirmed this characteristic of the hose.

A feature of the new hose is the incorporation of safeguards against dangers due to stored-up static electricity generated in the plane by the flow of air across the surfaces of the plane in flight. Woven into the sturdy braid of the hose is special rustproof stranded stainless steel wire. Thus, when the plane is being refueled any static electricity is conducted harmlessly to the ground through the wire and couplings.

Soil Analysis Laboratory

A new soil analysis laboratory, organized and equipped to give combination chemical and geological interpretation service, has been installed by Geochemical Service Corp. at 321 South Detroit Avenue, Tulsa. The company is headed by Dr. John W. Merritt, president; R. C. Earlougher, vice president, and L. M. Arnold, secretary-treasurer. Dr. Sylvain J. Pirson, head of the petroleum and natural gas engineering department at Pennsylvania State College, who holds a degree in mining engineering from the University of Louvain, Belgium, a master of science degree in petroleum geology from the University of Pittsburgh, and a doctor of science degree in geophysics from the Colorado School of Mines, is technical advisor.

Cornelius Representing Kobe

Paul D. Cornelius has been appointed a sales engineer in the Mid-Continent division for Kobe hydraulic all-purpose pumps, made by Kobe, Inc., Huntington Park, Calif. Mr. Cornelius has had wide experience in pumping operations and is well known to oil men throughout the Mid-Continent and Gulf Coast fields. Following service with the U. S. Marine Corps during the World War he attended the University of Kansas receiving his B.S. in mechanical engineering in 1923. He joined the San Francisco office of Sullivan Machinery Co. and was transferred to the St. Louis offices 4 years later. In these positions he was engaged in sales and engineering work in the construction, mining, and industrial fields. In 1933 he was made manager of the pumphead division.

While working out of the Mid-Continent division offices in Oklahoma City under the direction of C. M. Rader, division manager, Mr. Cornelius will have his headquarters in Kilgore, Tex.

Here and There With Men Who Manufacture Equipment

The following appointments have been announced by Marion Machine, Foundry & Supply Co., Marion, Ind.: Joseph C. Lewis, general manager; Earl L. Hadley, sales manager; Fred A. Hazell, credit manager; James G. Cowen, foundry superintendent.

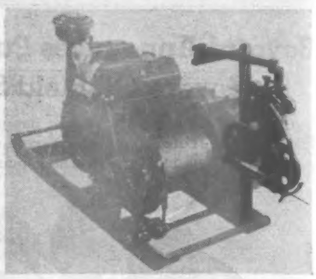
Blaw-Knox Co., Pittsburgh, Pa., has appointed Lawrence E. Joseph executive officer in charge of its Blaw-Knox division. He succeeds R. F. McCloskey, Sr., vice president, who was placed in charge of development of new products for the entire corporation.

James A. Fenwick and Frank F. Fenwick have purchased the business formerly conducted by Fenwick-Reddaway Manufacturing Co. and will operate under the name Fenwick Manufacturing Co., with the principal office at 134 Rome Street, Newark, N. J. The concern makes hair belting.

B. M. Horter, formerly in charge of the resale sales division of Cutler-Hammer, Inc., Milwaukee, Wis., has been advanced to general sales manager.

"Feeling" for Bottom of Hole Is Eliminated by Mathey Device

The experiences of a pioneer in the manufacture of well-measuring devices and close cooperation with well-surveying and measuring operators have been combined in the production of the new Type B measure meter and weight indicator.

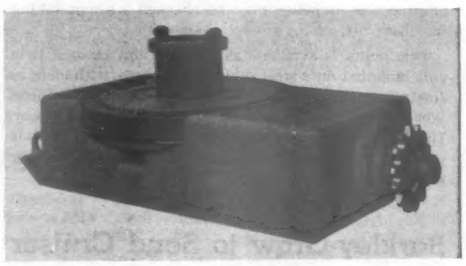


This device eliminates "feeling" for the bottom of the hole or for an obstruction. Two dials, one indicating length of the line and one indicating weight on the line, show when the bottom or obstruction has been reached. The dials are so located that both can be read instantly.

The Type B is available for all cars and trucks equipped with power takeoff driven measuring-line reels, individual gas-engine-driven portable units, measuring-line reel attachments on pulling units, and core drills.

Simplicity of Design Is Feature of New Ideco Oilbath Rotary

Simplicity of design is a feature of the new Ideco 17¼-in. streamlined oilbath rotary announced by International Derrick & Equipment Co. of Texas, Beaumont, Tex. Chrome-nickel heat-treated steel is used throughout. The sturdy, boxlike one-piece bed fits into the derrick base sills and floor; and the flat, rectangular top, with its nonskid surface, is convenient and safe for workmen.



The gear-table is a one-piece heat-treated chrome-nickel steel casting which provides a full 17-in. unobstructed opening. The main bearings are 3-in. balls operating in hardened forged-steel races constructed to resist both vertical and radial loads. Both the pinion and ring gear are heat-treated alloy steel, hammer-forged, with machine-cut teeth.

The table-lock is located on the machine opposite the sprocket, in plain view of the driller. The lock engages the table directly, thus removing strains from the pinion-shaft bearings and gear-teeth, an exclusive Ideco feature. A positive means is provided to safeguard against accidental engagement or disengagement of the table-lock.

This design, resulting in a very few parts, requires only 12 bolts and 12 cap screws for the entire assembly. The illustration shows an Ideco roller kelly drive installed in the machine. This item is an accessory and not standard equipment.

Dodge Truck Makes Record Run

An achievement in the field of commercial transportation was recorded recently with the completion of a run of a standard production Dodge diesel 3-ton truck from New York to Los Angeles, San Francisco and return to New York, in 7 days, 18 hours, and 33 minutes. This drive, a Chrysler Corp. engineering test trip, was made in a truck of regular production assembly that had not been especially prepared or constructed for rigorous travel.

AMERICAN CHAIN & CABLE CO. OPENS HOUSTON PLANT

Further to improve its service to the oil industry and other users of its products in the Southwest, American Chain & Cable Co. has put into operation a modern manufacturing plant and warehouse in Houston, Tex. In addition to wire rope, which will be manufactured and warehoused there, the company announces that other Acco products carried in stock are Reading-Pratt & Cady valves, Manley service-station equipment, Wright hand-operated and electrically operated hoists, and Ford chain hoists and trolleys.

New Type of Fitting Simplifies and Expedites Welding Jobs

A new type of seamless forged-steel welding fitting announced by Taylor Forge & Pipe Works, Box 485, Chicago, has an annular lip, forged integrally with the fitting. By firmly centering the fitting in the pipe to which it is to be welded, the lip eliminates the need for backing rings, clamps and guides for holding

the fitting in position, and is said to simplify and expedite pipe welding.

Fittings having this patented self-centering lip or ring are to be known as "Centring" WeldELLS. The result of welding a "Centring" WeldELL to a straight run of pipe is shown in the accompanying picture of a cutaway section through the pipe and fitting. Emphasis is placed by the manufacturer on the fact that the ring remains cooler during the welding than the molten weld metal. As a result, the bottom of the V appears darker than the sides. This color contrast is said to be an excellent guide to the welder, permitting him to effect complete penetration without burning through. Attention is called also to the smooth contour formed by the streamlined lip, which minimizes flow resistance.

Parkersburg Rig & Reel Plans Acquisition of O. C. S. M. Co.

An interesting development in the oil-field equipment industry is the announcement by C. A. Ruf, vice president and general manager of Parkersburg Rig & Reel Co., that the stockholders of that company had been asked to approve acquisition of the common stock of Oil Country Specialties Manufacturing Co. at a meeting to be held on September 8.

The Parkersburg company, with plant and offices at Parkersburg, W. Va., was founded in 1897 by John M. Crawford, the present chairman of the board. His brother, David B. Crawford, president of the company, has been associated with the business for 40 years. Mr. Ruf started with the company 20 years ago. B. M. Farson is secretary and treasurer.

With warehouses serving the oil and gas industry in all principal producing areas in this country Parkersburg Rig & Reel Co. has a well-established business, manufacturing and marketing steel derricks, bolted and welded steel tanks, gear-driven pumping units, hydromatic brakes, and in May of this year it added the Smith separator to its line of products.

Oil Country Specialties Manufacturing Co., with manufacturing plants at Coffeyville, Kans.; Houston, Tex., and Long Beach, Calif., has played an important part also in serving the oil and gas industry.

W. P. Turner, president, located in Long Beach, and D. R. Brown, vice president and general manager, in Coffeyville, Kans., organized the company 20 years ago. D. C. Myers is secretary and treasurer.

O.C.S. manufactures and markets a line of chain-driven pumping units, clutches, hoists and special machinery for the oil industry.

If the acquisition is approved by Parkersburg Rig & Reel stockholders, it is contemplated that the two organizations will be conducted independently, continuing present operating policies of each company in effect as heretofore. The proposed acquisition will, it is believed, improve the companies' ability to serve the oil and gas industry.

Trade Literature

INTERNATIONAL NICKEL CO., 67 Wall St., New York.—Folder giving basic information on mechanical, corrosion-resistant and other properties of rolled nickel, monel, and other high nickel alloys.

ROE MANUFACTURING CO., Main and Broadway, Oklahoma City, Okla.—Bulletin on high-pressure drillable bridge plug and Roe cement retainer.

GENERAL ELECTRIC CO., Schenectady, N. Y.—Publication GEA-2420 on capacitator motors for oil pumps, sump pumps, irrigation pumps, water circulators, etc.

INGERSOLL-RAND CO., Phillipsburg, N. J.—Catalog, 88 pages, of rock drills and associated equipment, with interesting history of rock-drill development; also bulletin on general-service motorpump.

STEEL BARREL FITTINGS CO., 299 Madison Avenue, New York.—Bulletins on the Chime Master (for reshaping chimes) and the Aceco drum cleaner.

GENERAL REFRACTORIES CO., Philadelphia, Pa.—Book on boiler refractories, has more than 50 illustrations.

BUCYRUS-ERIE CO., South Milwaukee, Wis.—Bulletin, 32 pages, on new convertible 44-B 2-yd. shovel.

JOSEPH T. RYERSON & SON, INC., Sixteenth and Rockwell Streets, Chicago.—General data book, containing metallurgical definitions; heat, hardness, and numerical equivalent tables, etc.

ROCKWOOD MANUFACTURING CO., 1801 English Avenue, Indianapolis, Ind.—Booklet describing all types of Rockwood paper pulleys.

AMPCO METAL CO., Milwaukee, Wis.—"Yield Point vs. Yield Strength," another in the series of data sheets published monthly.

CLIMAX MOLYBDENUM CO., 500 Fifth Avenue, New York.—Current issue of Moly Matrix, containing report of an investigation of creep strength of 5 per cent chromium steel.

Testing Diesel Fuel Injectors

A compact, portable hand pump for testing diesel fuel injectors in the field, is now being made by Diesel Equipment Corp., 4401 North Ravenswood Avenue, Chicago. It is designed to permit the user to check all size injectors of all standard makes, including Deco, Timken, Bendix, Bosch, Caterpillar, Hesselman, International and others. So simple is its use, according to the manufacturer, that testing the adjustment of fuel injection systems can be made a routine service job like greasing and oiling.

Improved Back Filler Is Readily Converted to Other Service

Harnischfeger Corp., of Milwaukee, Wis., announces a new back filler. Advantages over older models include 57 per cent increase in power, greater ease of operation

and greater adaptability for a wider range of services. In addition to back filling, this machine can be used for lifting, pulling, pushing, handling pipes, and drum-hoist applications.

As a back filler this machine combines rapid line speeds and ample power with exceptional tractive ability. Three-speed transmission is available both for the efficient handling of materials and for change of pace in travel. The machine has a live telescopic boom, of latticed construction, with a swinging radius of 180° and adjustable between 22 and 31 ft. in increments of 18 in. With its 55-hp. gasoline motor, this machine has sufficient power to handle scrapers up to 7 ft. in width.

Though designed primarily as a back filler, other uses can keep this machine busy. In pipe handling it is easily maneuvered and it has high lifting capacities.

NEW WELL-LOGGING SERVICE IS ANNOUNCED BY BAROID

There has been developed a method of accurately and definitely determining the content of formations encountered while drilling, and of accurately logging the depths and thicknesses of such formations. It enables the operator to drill ahead with assurance.

This new Baroid well-logging service is based on the principle that the oil, gas, or salt-water content of any formation drilled up by the bit must necessarily be picked up by the drilling mud as it is circulated during drilling. If, then, any unit volume of the drilling mud, upon returning to the surface, is subjected to the necessary tests and the content of that unit volume is accurately correlated with the depth of the hole at the time that particular unit volume of mud was passing the bit, not only is it possible to determine whether that particular part of the formation being drilled contains gas, oil, or salt water, but it is even possible to determine the relative quantities contained in that part of the formation.

The equipment is mounted in a trailer which can be moved from one location to another. It includes a gas detector of extremely sensitive design; an ultraviolet-light oil-detection device, which enables the operator to detect small oil sands; apparatus for logging salt water; a depth recorder; a pump-stroke counter and a rate meter, for determining the rate at which the pump is running in complete cycles per minute; and complete core-analysis equipment.

An illustrated bulletin describing the Baroid well-logging service equipment and procedure in detail may be obtained at Baroid Sales Department offices in Los Angeles, Houston, or Tulsa.

CLASSIFIED ADVERTISING

Patent Attorneys

PATENTS — TRADE MARKS
All cases submitted given personal attention.
Form "Evidence of Conception" with instructions for use and "Schedules of Government and Attorneys' Fees"—FREE.
LANCASTER, ALLWINE & ROMMEL
Patent Law Offices
418 Bowen Bldg., Washington, D. C.

JACK A. SCHLEY
PATENT LAWYER
Patents obtained — infringement practice in all Courts—oil field experience, 1807-11 Tower Petroleum Bldg., Dallas; 2014 Second Nat'l. Bank Bldg., Houston; 707 Insurance Building, San Antonio, 433 Munsey Building, Washington, D. C. Address any of these offices.

Leases and Drilling Blocks

LEASES—East Texas, La., South Ark. 20 acres up, dollar acre up.—Owners—Address Attorney, Box 1122, Little Rock, Ark.

ILLINOIS 60,000 acres in and near production. Illinois Minerals Company, Cairo, Illinois.

BROKERS and SALESMEN only
A complete SERVICE EXPERTS in every department of the Oil Business at your SERVICE a REAL SET-UP. The best opportunity ever offered you. Leases in large or small lots at
WHOLESALE PRICES
Write today and get started right.
OIL BROKERS EXCHANGE
200 Don Juan Bldg., Santa Fe, N. M.

SACRAFICE 40-acre Oil Lease, Chaves County, for only $10.00, full price. Guarantee title. P. O. Box 191, Clovis, N. Mex.

ALBERTA — CANADA
Leases and Drilling Blocks
Tell us your requirements and receive promptly full and accurate information
OILFIELDS INFORMATION AGENCY
C. T. Fillan
810 Lancaster Bldg., Calgary, Alberta.

BREWSTER COUNTY—TEXAS
DEALERS—Offer land in fee. All oil, gas, and other minerals included. TEN ACRE tracts and up very cheap. Write A. C. Smith, P. O. Box 200, San Antonio, Tex.

LEASES—Clinton County, Ky., on good structure, near shallow production, in the Wilcox and Sunnybrook area. New wells being started. Can furnish single or in blocks, or will drill one or more wells. T. Pettey, Jamestown, Kentucky.

INVESTMENT OPPORTUNITIES
1/16 interest 80-A. proven lease and drilling well to be completed all costs paid $150.00. Leases offsetting new shallow production, drilling blocks on structure, producing and non-producing royalties. Address:
P. O. Box 389, Paola, Kansas.

NEW MEXICO
State Oil and Gas Leases
Forty acres and multiples thereof. Buy in a New Hot Spot. Well down 275 ft. This is a real opportunity. Let's get together on it. Write for information. Other tracts as low as $6.00 per forty. List mailed upon request. 20 years in the business and not a complaint. I have a string of winners.
HARRY S. WRIGHT, STATE LESSEE
Registered Dealer—State of Iowa
Box 166, Council Bluffs, Iowa.
Box 347, Santa Fe, New Mexico.

Leases and Drilling Blocks

CRANE-Ward Co. line, Sec. 18 B 28, lease 79 ac., fee 240 A. Magnolia Lease. Write 415 Littlefield Bldg., Austin, Texas.

WANTED—To buy for cash 300 to 500 bbl. daily producing oil well in So. Illinois with 80 acres adjoining that can be leased for drilling. Box 215, Morris, Ill.

NEW MEXICO WEEKLY OIL SCOUT REPORT.—Send for sample copy. Roy G. Barton, Box 968, Hobbs, N. M.

EAST TEXAS Woodbine—Trinity sand wildcats starting shortly offer best chances big quick money, Leases—Royalties.
E. CROFT, PROCTOR, TEXAS.

WILL BUY mineral interests in West Texas and New Mexico. Submit full details. Box 585, Amarillo, Texas.

W A N T E D
PRODUCING OIL PROPERTIES
PRINCIPALS ONLY
Will purchase from owners producing properties, non-producing royalties under major company leases and oil payments.
JOHN PAUL GIBSON
522 Fifth Avenue, New York City.

SETTING up important information office for Belgium, Switzerland, Holland, England. We are interested in everything connected with oil and gas. Send documentation, prospectus, geological maps, specialized banks addresses—Material constructors—Selling offers producing royalties wanted. Write direct with conditions to Porte 39, rue de la Loi, Bruxelles, Belgium.

NORTHWEST ¼, southwest ¼, section 4-7 north, 3 east; Pottawatomie County. Hatler Oil Co., Neosho, Missouri.

FOR SALE or lease—All or part 200 acres, center Southern Illinois oil basin. Quarter mile from Kingwood Oil Co. drilling loc. H. E. Maulding, Dahlgren, Ill.

F. V. B. PRICE
Experienced Geologist—Oil, Gas, Water Locater.
R. F. D. 2, Saltillo, Mississippi
My Geological knowledge and locating was gained by many years of study and experience, application of a radio principle testing out at and around drilling wells and checking them as they were finished by my method of testing. I can give 95 to 100% accurate reports a showing light or heavy production whether it pinches out or chops off abruptly. I have a large oil pool located in this part of Mississippi, want someone to develop it on an equitable basis. This pool contains around fifteen thousand acres.

Leases and Drilling Blocks

FOR SALE
Oil and gas leases, and small production on leases with many proven locations to drill, located in the Kentucky shallow field, also blocks of leases in Clay County, Tennessee, near oil wells. W. P. HARLEY, Bowling Green, Kentucky.

KENTUCKY and INDIANA
Two wildcat blocks one each state. Drilling contract let on both blocks. Operations start 30 days. 10-acre tracts each block—$25.00 each, $50.00 for two tracts. Geological reports. Brokers write:
BURGER & SIEP
P. O. Box 426 Paducah, Kentucky

Mailing Lists

ROYALTY Lists. Oil Investor Lists. Stockholders Lists. By states. Oil Industry Mailing List Co., Tulsa Loan Bldg., Tulsa, Oklahoma.

Financing

CAPITAL SEEKERS
Put your project before 260 Key-Men. Cost trifling. Details free. AMSTER LEONARD, Fox Theater Building, Detroit, Michigan

AMERICA'S 83 leading underwriters who bought a billion of securities 1938 $3.00. JOHN MORRIS, 1040 South Paxon Philadelphia, Penna.

Business Opportunities

FOR SALE—Fully integrated natural gas properties, situated in Kansas and Missouri, consisting of over 400 meters, 70 some odd miles pipe line, 15 or more producing gas wells, franchises on five towns, and leases on over 3,000 acres of gas producing acreage. Price: $60,000. Inquire of LOUIS C. CYR, 45 Melrose St., Lawrence, Massachusetts.

Oil Industry Printing

OIL FIELD LEGAL BLANKS
Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

Legal Blanks

SINCE 1908 Burkhart's legal forms—servicing Mid-Cont. oil fields, including Ill., La., Mo., Ind. & Ky. Free catalog & samples. Burkhart Ptg. & Sta. Co., 115 So. Cinn., Tulsa, Okla.

For Sale—Maps

TEXAS and NEW MEXICO
UP-TO-DATE OIL DEVELOPMENT MAPS
Zingery Oil Map Co., Fort Worth, Tex.

Royalties

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Brokers—Salesmen

Sell in the most active area in the United States—The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Security and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

PRODUCING OIL ROYALTIES
15 years of experience.
L. H. WITWER
703 Kennedy Bldg., Tulsa, Okla.

WANTED producing oil royalties and oil payments in North and West Texas and New Mexico. P. O. Box 1535, Fort Worth, Texas.

WILL buy producing royalties and mineral rights in Arkansas. P. O. Box 807, El Dorado, Arkansas.

PRODUCING ROYALTIES BOUGHT
We purchase producing royalties in all fields. Mail complete descriptions including last six months run sheets for our best price. Address Box K-255, The Oil and Gas Journal, Tulsa, Oklahoma.

Survey Service

REMEMBER EAST TEXAS
When all other methods fail, employ my divining or dowsing method. If oil exists this method finds it. Faults, broken, treacherous areas accurately defined. Our Watson #2, first producer Wilmington, Calif. field, located by this method. More reliable than mechanical geophysics. Ask any unbiased oil authority. Many years' experience. A wise man investigates. George Miller, 1548 Post, Torrance, Calif.

Ranches—Farm Land

RANCHES and FARMS
Oklahoma, Texas, New Mexico; new low bargain prices—mountains or plains. Howard Ingram, Perrine Bldg., Okla. City, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS—Delaware best, quickest, cheapest, more liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Equipment Wanted

WANTED: Used coring and drilling machine capable of 2000 ft. depth. Home Oil Co., Morton, Ill.

WANTED: Good used Bolted Tanks and Separators. Give location, price, and condition. WABASH TANK COMPANY, Grayville, Illinois.

WILL buy unitized Diesel Rig, including derrick, drill pipe, casing, wire rope, etc., new or nearly so. For small-hole drilling to 7,000 feet, foreign. Send price per unit, total price, and price f.o.b., state which U. S. port. Send specifications and if will sell all or part. Address
BOX K-251
The Oil and Gas Journal
Tulsa, Oklahoma.

CLASSIFIED ADVERTISING RATES

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White-space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	$1.05	$1.80	$2.55	$3.30	7 Lines	$2.45	$4.20	$5.95	$7.70
4 Lines	1.40	2.40	3.40	4.40	8 Lines	2.80	4.80	6.80	8.80
5 Lines	1.75	3.00	4.25	5.50	9 Lines	3.15	5.40	7.65	9.90
6 Lines	2.10	3.60	5.10	6.60	10 Lines	3.50	6.00	8.50	11.00

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes

1 Inch	1 time	$5.00
1 Inch	13 times	4.50 per inch
1 Inch	26 times	4.00 per inch
1 Inch	52 times	3.50 per inch

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

!! WHAT HAVE YOU FOR SALE !!

We are in the market for complete plants of any type or any lot of material or equipment you wish to dispose of, regardless of location. ***Send us your surplus material listings.***

SONKEN-GALAMBA SUPPLY COMPANY

W. C. Berry or H. J. Galamba,
Riverview at Second, Kansas City, Kansas

Robt. W. Duden,
2100 S. Union, Tulsa, Oklahoma

WE PURCHASED THE FORMER SHELL OIL REFINERY, ARKANSAS CITY, KANSAS. ALL MATERIALS AND EQUIPMENT LISTED BELOW OFFERED AT SALVAGE PRICES:

Portable Steel Buildings—Complete Coke Handling Plant—150 Storage Tanks 250 to 15,000-bbl. capacity—Power House containing five 500-hp. boilers and water-treating equipment—Fire-Fighting Equipment—Machine Shop and Carpenter Shop Equipment—10 miles 75-lb. Rails and Switches, some new—Pressure Vessels—Vertical and Horizontal Pumps—Electric Motors—Structural Steel—Building Materials—Asbestos and Insulation—2,500 tons Line Pipe, 2-in. to 30-in. diameter. Many carloads Steel and Cast Iron Valves and Fittings.

Seldom has a refinery of this size been offered to the public for salvage. This plant is of comparatively recent construction and has been in operation continuously up to a few months ago. Only the best quality materials and equipment used in this plant with the result that there are many years of service left in every item purchased.

The refinery site must be cleared within a short time; therefore, you have an opportunity of a lifetime to make substantial savings on every purchase. Complete inventory will be available in a few days but if you are interested we urge you not to delay in visiting this unusual plant and make your selections early. Our representatives on the premises will gladly show you around and quote prices.

BROWN-STRAUSS CORPORATION

Main Office and Plant
1445 Guinotte Street
Kansas City, Missouri

Branch Office
Shell Oil Refinery Site
Arkansas City, Kansas

FOR SALE—Complete line of refinery equipment for skimming plants up to 2,000 bbl. capacity; can also handle construction work, Towers and Tanks built to your specifications. Western Tank & Road Supply Co., P. O. Box 1671—Tel. #2-2160, Wichita, Kansas.

WELL treating truck—GMC Model T-18-HC, low mileage, with pressure, measuring, and water tanks, power pump, Ford power unit and air compressor with tanks, reasonable price. Write for further details.

W-K-M COMPANY, Inc.
Box 2117
HOUSTON, TEXAS.

FOR SALE—EQUIPMENT

New Murphy MD-6 Six-Cylinder Diesel Power Unit complete with housings, fuel tank, electric starter and Twin Disc clutch. Extremely low priced.

W-K-M COMPANY, Inc.
BOX 2117
HOUSTON, TEXAS.

FOR SALE

HOUSTON, TEXAS INDUSTRIAL DISTRICT. 27 acres whole or part. Steel shed 75-x300; equipped with 7 ton Milwaukee traveling crane, ideal for oil tool manufacturing plant. Rail, water, highway connections. Further details upon request. Write, phone, or wire: The Vaughan Lumber Co., P. O. Box 1447, Houston, Texas.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio.

TRACTORS

Government crawler type Caterpillars, 5 ton $375, 10 ton $695, Slightly used. Perfect condition.

O. C. EVANS
Mt. Sterling, Ky.

NO. 2 National Drilling Machine. Tools from 10" down. Motor & jack shaft. Like new. Address Box K-201, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE—Cable-tool unit, consisting W.O.K. Waukesha engine with O.C.S. reverse clutch; butane tank; light plant. Murray Tool & Supply Co., Tulsa, Okla. 4-0144.

COMPRESSOR CYLINDERS AND GAS ENGINES 5¼", 7¼", 7½", 12", 17", 17⅛", 18" and 26" Clark, Bessemer, Ingersoll-Rand Compressor Cylinders. 40 HP 2-cycle Superior Gas Engines complete. Reversible Clutches and extra parts. All reshopped and in first class condition.

NOLAN SALES CORPORATION
Tulsa, Okla. Seminole, Okla.

Situations Wanted

MECHANICAL engineer continuously employed 16 yrs. now available. Oil production, equipment design and executive management. Working knowledge of French, Spanish, English. Travel or reside abroad if required. R. M. Benardeau, Box 1794, Tulsa, Okla. Call 4-6415.

OIL SPECIALIST tax consultant. Age 37. C.P.A. 14 yrs. experience, which includes systematizing, financial reports, and diversified public accounting. Highest credentials as to integrity and creative ability. Address Box K-130, The Oil and Gas Journal, Tulsa, Okla.

PETROLEUM Engr., University education, exp. in scouting, leasing, surveying, geology and geophysics, reliable, capable, and industrious; desires responsible position. Address Box K-250, The Oil and Gas Journal, Tulsa, Oklahoma.

CREDIT MANAGER — 9 years' experience in credit and legal department oil field supply and equip. company. Reliable. A-1 References. Address Box K-254, The Oil and Gas Journal, Tulsa, Oklahoma.

Help Wanted

MECHANICAL ENGINEER, Sales-design, Rotary drilling equipment. Young man, some experience. Give full details, training, etc. Address Box K-243, The Oil and Gas Journal, Tulsa, Okla.

SALES MANAGER — Excellent opportunity available for man well acquainted Middle West jobbing trade, particularly Illinois, Indiana. New refinery manufacturing all grades, gasoline to fuel oil. Applications strictly confidential. State age, experience, salary desired, and qualifications. Address Box K-230, The Oil and Gas Journal, Tulsa, Oklahoma.

CREDIT MANAGER—Wanted by progressive Middle West refinery. Applicant must be well experienced and qualified. State age, salary desired, and complete details regarding yourself. All replies confidential. Address Box K-231, The Oil and Gas Journal, Tulsa, Oklahoma.

WANTED — Experienced oil executive, act as assistant treasurer in charge accounting, taxes, finances. Must have thorough general knowledge all phases producing and refining. Progressive independent company mid-west. Outline complete record and salary received. Address Box K-252, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

WANTED sales agents to represent an established manufacturer of valve cups. One agent for the states of Michigan, Illinois, and Kentucky, one agent for Ohio, Pennsylvania, and West Virginia. Agents to work on strict commission basis. Address Box K-253, The Oil and Gas Journal, Tulsa, Oklahoma.

WANT salesmen in each state to sell new Sand pump on commission. You need coupe. P. O. Box 142, Tulsa, Oklahoma.

Confidential Oil Report Service

LOCKWOOD'S DAILY OIL REPORT*

Keep posted with dependable information every day on developments (locations, drilling progress, completions, new strikes, structures, and deals) throughout Texas, N. M., and Louisiana.

ASK FOR SAMPLES AND RATES
314 2nd Nat'l Bank Bldg., Houston
1117 Sinclair Building, Fort Worth
*(Est. 1927—The Oil Report of Successful Oil Men.)

CRUDE-OIL PRICES

Complete crude-price schedules are now being published in the first issue of each month. The last complete schedule was published in the August 3 issue. All changes in crude-oil price schedules will be published completely in the first issue following the announcement of the changes. Following are representative crude-price schedules in barrels (42 gal.):

East Texas	$1.10
Conroe	1.27
Tepetate, La.	1.03
Smackover, Ark., heavy	.73
Illinois basin	1.05
Pecos County, Tex.	.78
Lance Creek, Wyo.	.77
Bradford, Pa.	2.00

Gravity Schedule

Top prices include all gravities above grades designated and low prices include all gravities below grades designated:

	Signal Hill, Calif.	Oklahoma, Kansas	Gulf Coast Texas
14-14.9	$.80	...	...
15-15.9	.80	...	...
16-16.9	.80	...	...
17-17.9	.80	...	...
18-18.9	.80	...	$.79
19-19.9	.82	...	.79
20-20.9	.85	$.70	.82
21-21.9	.88	.72	.85
22-22.9	.92	.74	.88
23-23.9	.95	.76	.91
24-24.9	.99	.78	.94
25-25.9	1.03	.80	.97
26-26.9	1.06	.82	1.00
27-27.9	1.10	.84	1.02
28-28.9	1.14	.86	1.04
29-29.9	1.17	.88	1.06
30-30.9	1.21	.90	1.08
31-31.9	...	.92	1.10
32-32.9	...	.94	1.12
33-33.9	...	.96	1.14
34-34.9	...	.98	1.16
35-35.9	...	1.00	1.18
36-36.9	...	1.02	1.20
37-37.9	...	1.04	1.22
38-38.9	...	1.06	1.24
39-39.9	...	1.08	1.26
40-40.9	...	1.10	1.28

Texas Wildcats

(Continued from Page 97)

Wray, Abst. 140, J. P. Hume Sur., 4,500-ft. test. Fsg. for bailer 3,960 ft.

Stanley Thompson et al No. 1-A J. C. Vaughn, Blk. 3, T.&N.O.R.R. Sur., Abst. 1248; 4,250-ft. cable tool test. Drlg. 2,520 ft.

Trentman, Nunnelly & Rankin No. 1-B Henry Brashears, Sec. 1974, T.E.L. Sur. 6⅝-in. 3,980 ft.; L.S.O. 3,980-4,022 ft.; 12 B.O., 100 B.W. in 24 hrs.

WEST CENTRAL TEXAS DISTRICT

Brown County

J. L. Derrich No. 1 C. V. Harris, Sec. 617, Prosper Mangle Sur. Drlg. 1,090 ft.

Lynn No. 1 Nesbitt Rice, M.E.P.&P. Sur., Blk. 25. S.D. 1,120 ft.

Wilson Oil Co., Inc., No. 1 M. Bowden, Sec. 138, W. E. Gilliland Sur. Drlg. 900 ft.

Callahan County

Bayou Oil Co. No. 1 W. E. Jones, Sec. 84, Comal Co. Sch. Ld. Sur. Loc.

Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Lds. Drlg. 1,925 ft.

S. Henderson et al's No. 1 I. N. Jackson, SW¼ Sec. 20, E.T.R.R. Sur. Loc.

E. Johnson No. 1 M. Hughes, SW¼ NE¼ Sec. 127, B.B.B.&C. Sur. D.&A. 886 ft.

M. M. Little et al No. 1 W. P. Ledbetter, Sec. 4, NW M. Cherry Sur. Drlg. 468 ft.

Hal Wagnon et al's No. 1 Wm. Isenhower, Sec. 304, Blk. 5, S.P. Sur. Drlg. 380 ft.

Coleman County

Anzac Oil Corp. No. 5-C J. P. Morris, David Breeding Sur. Drlg. 2,187 ft.; S.O. 2,174-86 ft.

Cooper Oil Co. No. 1 J. P. McCord, Sec. 519, San Augustine Sur. Drlg. 3,859 ft.

Kynaston-Culberson-Culberson & Bozeman No. 1 J. P. McCord, Sec. 159, J. W. Meeks Sur. Drlg. 1,410 ft.

A. R. Pruitt No. 1 Y. B. Johnson, J. W. Hicks Sur., Abst. 265. Drlg. 450 ft.; no report.

Comanche County

J. W. Cawley et al No. 2 A. K. Anderson, SE Subd. 6, Lampasas C.S.L., Sec. 34, Abst. 608. Drlg. 220 ft.

Index to Advertisers

A

Abercrombie Pump Co.
Air Reduction Sales Co.
Alco Products Division—American Locomotive Company
Allegheny Ludlum Steel Corporation
Allis-Chalmers Mfg. Co.
American Bosch Corporation
American Cable Division of American Chain & Cable Co., Inc. Inside Back Cover
American Cast Iron Pipe Company
American Hoist & Derrick Co.
American Iron & Machine Works
American Meter Company 4
American Roller Bearing Co. 67
American Sand-Banum Co. 88
American Steel & Wire Company
Armstrong Machine Works
Atlas Drop Forge Co.
Atlas Imperial Diesel Engine Co.
Auer, C. L. and W. W.
Axelson Manufacturing Company 68

B

Baash-Ross Tool Company
Babcock & Wilcox Tube Co., The
Badger & Sons Co., E. B. 49
Baker Oil Tools, Inc. 6
Baldwin-Duckworth Chain Corp.
Bantam Bearings Corp.
Barkley-Grow Aircraft Corp., The
Baroid Sales Company
Barret, William M., Inc.
Bastain-Blessing Co., The
Beckman, Inc.
Bethlehem International Supply Company
Bethlehem Steel Co. 1
Billings & Spencer Co., The
Braden Steel Corporation
Bradford Motor Works, Inc.
Brewster Company, The
Bridgeport Machine Company 42
Bristol Company, The
Broderick & Bascom Rope Co.
Bruning, Charles, Co., Inc.
Bucyrus-Erie Company
Butler Manufacturing Co.
Byron Jackson Co.

C

Cable, Jo H.
Cameron Iron Works, Inc.
Cardwell Mfg. Co., Inc.
Carey Company, The Philip
Carnegie-Illinois Steel Corporation
Case, J. I., Company
Cast Iron Pipe Research Association, The
Caterpillar Tractor Co.
Central Power & Light Co.
Century Electric Company
Chain Belt Co., The
Chaplin-Fulton Mfg. Co., The
Chapman Valve Mfg. Co., The
Chemical Process Co., Inc., The
Chevrolet Motor Division, General Motors Sales Corporation
Chicago Bridge & Iron Company
Chiksan Oil Tool Co., Ltd.
Clark Brothers Company
Classified Advertising 110-111
Cleveland Trencher Company 84
Climax Engineering Company
Climax Molybdenum Company 37
Columbia Steel Company
Columbian Steel Tank Co.
Continental-Falk 23
Continental National Bank of Fort Worth
Continental Oil Co.
Continental Motors Corp.
Continental Supply Company, The 23
Cooper, Fred E.
Cooper-Bessemer Corp., The
Core Laboratories, Inc.
Crane Co. Back Cover
Cummins Engine Co.
Curtin, W. H., & Co., The

D

Darling Valve & Mfg. Co.
Davis Regulator Co.
Dayton Rubber Mfg. Co., The
Dearborn Chemical Co.
Demag
Diamond Chain & Mfg. Co.
Dodge Mfg. Company
Dowell, Incorporated
Dragon Mfg. Co., The
Dresser Mfg. Co.
Drilling Equipment Directory 45
Du Pont de Nemours & Co., Inc.

E

Eagle-Picher Lead Co.
Eastman Oil Well Survey Co.
Economy Electric Lantern Co.
Edward Valve & Mfg. Co., The
Emsco Asbestos Company
Emsco Derrick
Enardo Foundry & Mfg. Co.
Ensign Carburetor Company, Ltd.
Ethyl Gasoline Corporation

F

Failing, George E., Supply Company
First National Bank of Fort Worth
First National Bank in Houston
First National Bank & Trust Co. of Tulsa, The
Fisher Governor Company
Fluid Packed Pump Co. 50
Fluor Corporation, Ltd., The
Ford Motor Co.
Fort Worth Chamber of Commerce
Fort Worth Clearing House Association
Fort Worth National Bank, The
Foster Wheeler Corp.
Foxboro Co., The
Franks Manufacturing Corp.
Frick-Reid Supply Corporation

G

Gardner-Denver Company
Garlock Packing Company, The
Gaso Pump & Burner Mfg. Co.
Gasoline Products Co., The
Gates Rubber Co., The
Gatke Corporation 65
General American Transportation Corporation—Terminal Division
General Electric Company
General Paint Corporation
General Power, Inc. 81
Geological Scientific Service Company, Inc.
Geophysical Service, Inc.
Gilmer Company, L. H. 2
Gilmore Wire Rope Division of Jones & Laughlin Steel Corporation
Girdler Corporation, The
Goodall Rubber Co.
Goodyear
Gott, H. P., Mfg. Co.
Graver Tank & Mfg. Co., Inc.
Gray Processes Corporation, The
Guiberson Corporation
Gulf Oil Corp.
Gulf States Utilities Co.
Gustin-Bacon Mfg. Co.

H

Halliburton Oil Well Cementing Co.
Hanlon-Buchanan, Inc.
Harnischfeger Corporation
Harrisburg Steel Corporation
Hazard Wire Rope Division of American Chain & Cable Co., Inc.
Helland Research Corporation
Hewitt Rubber Corp.
Hill-Hubbell & Co.
Hoard Exploration Company
Houston Lighting & Power Company
Houston Oil Field Material Company
Hughes Tool Co. Front Cover
Humble Oil & Refining Co.
Hunt Tool Company
Hydril Co.

I

Independent Exploration Company
Inferno Co., The 76-88
Ingersoll-Rand Co. 74
International Derrick & Equipment Co., The
International Geophysics, Inc.
International Harvester Co. 27
International Nickel Company, Inc., The
International Petroleum Exposition

J

Jarecki Manufacturing Company
Jensen Brothers Manufacturing Co. 87
Jerguson Gage & Valve Co. 88
Johns-Manville Corporation
Jones Company, S. M. 3
Jones & Laughlin Steel Corporation
Jones-Shelburne, Inc.

K

Kellogg, M. W., Company, The 41
Kennedy Valve Mfg. Co., The
Keuffel & Esser Co.
Key Company
Kinzbach Tool Co.
Kobe, Incorporated
Krupp

L

Landis Machine Co., The
Lane-Wells Co., The
Larkin Packer Company, Inc. 61
Layne and Bowler Co., The
Layne & Bowler, Inc.
Leeds & Northrup Co.
Leland Equipment Co.
Lennox Hotel
Le Roi Company
Leschen, A., & Sons Rope Co.
Lincoln Electric Company, The
Line Scale Co., Inc.
Link-Belt Company
Lockheed Aircraft Corporation
Lone Star Cement Corporation
Lonergan, J. E., Co.
Ludlow Valve Mfg. Co., The
Lufkin Foundry & Machine Co. 71
Lufkin Rule Co., The
Lummus Co., The 53
Lunkenheimer Co., The

Mc

McGregor Working Barrel Company
McKissick Products Corp.

M

MacClatchie Manufacturing Company
Macwhyte Co.
Magnolia Airco Gas Products Co.
Maloney Tank Mfg. Co.
Manhattan Rubber Mfg. Division
Marley Company, The
Marmon-Herrington Co., Inc.
Marsh, James P., Corp.
Martin-Decker Corp. 62
Mathey Machine Works, C. A.
May, George S., Company
Mayfair Hotel
Medart Company
Meehanite Research Institute
Merco Nordstrom Valve Co.
Merla Tool Co.
Metric Metal Works 4
Midco Bailer Co.
Mid-Continent Supply Co.
Midwest Piping & Supply Company, Inc., The
Miller Sand Pump Co.
Mission Mfg. Co., The

N

National Bank of Tulsa
National Carbon Co., Inc.
National Lead Company
National Supply Co., The 46
National Transit Pump & Machine Co.
National Tube Co.
New Bedford Cordage Co. 76
New Deal Specialty Co., The
Newman, Hender & Co., Ltd.
Nitrose Company, Inc., The
Novo Engine Co. 90

O

O'Bannon Co., Walter
Oil Center Tool Co.
O.C.S. Mfg. Co., The
Oil Well Mfg. Corp. 76
Oil Well Supply Company
O-K Machine & Manufacturing Co.
Osage Metal Company 77
Otis Pressure Control, Inc.

P

Pacific Pump Works
Page Fence Association
Page Steel & Wire Division of American Chain & Cable Co.
Parkersburg Rig & Reel Co.
Parkhill-Wade 72
Patent Fuels and Color Corp.
Patterson-Ballagh Corporation
Pearl River Clay Company
Peerless Pump Division of Food Machinery Corp.
Penberthy Injector Co.
Pennsylvania Grade Crude Oil Association
Perco, Inc.
Petroleum Advisers, Inc.
Petroleum Electric Power Association
Petroleum Rectifying Company
Petty Geophysical Engineering Company
Phelps Dodge Refining Corporation
Pittsburgh-Des Moines Steel Company
Pittsburgh Equitable Meter Co. Inside Front Cover
Pittsburgh Steel Company
Plymouth Cordage Co.
Pomona Pump Co. 77
Portable Rig Co.
Price Co., H. C.
Pritchard, J. F., & Co.
Producing Equipment Directory
Pure Oil Co.

R

Reading-Pratt & Cady Division of American Chain & Cable Co., Inc.
Rector Well Equipment Co., Inc.
Reda Pump Co.
Reed Roller Bit Company 77
Regan Forge & Engineering Co.
Reilly Tar & Chemical Corporation
Republic Rubber Division of Lee Rubber & Tire Corp.
Republic Steel Corporation
Roebling's Sons Company, John A.
Ryerson & Son, Inc., Joseph T.

S

St. Joseph Forward Association
Schlumberger Well Surveying Corporation
Security Engineering Co.
Seismic Explorations, Inc.
Seismograph Service Corp.
Shafer Bearing Corporation 64
Shaffer Tool Works
Shand & Jurs Co.
Shell Oil Company, Incorporated
Sinclair Refining Company
S.K.F. Industries, Inc.
Skinner Co., M. B.
Smith, A. O., Corporation
Smith Company, E. M. 80
Smith, H. C., Oil Tool Co. 76
Smith Meter Company
Smooth-On Mfg. Co.
Socony-Vacuum Oil Co.
South Chester Tube Co.
Southwestern Gas & Electric Company
Spang Chalfant, Inc.
Spang & Company, Inc.
Spartan Aircraft Company
Sperry-Sun Well Surveying Co.
Spicer Mfg. Corp.
Standard Brake Lining Co. 76
Star Drilling Machine Company
Stearns-Roger Manufacturing Co. 72
Subterrex

T

Taylor Forge & Pipe Works
Taylor Instrument Companies
Technical Oil Tool Corporation
Texaco Development Corporation
Texas Company, The
Texas Iron Works
Thermoid Rubber
Thornhill-Craver Co., Inc.
Timken-Detroit Axle Co.
Timken Roller Bearing Company 56
Timken Roller Bearing Company Steel and Tube Division
Toledo Pipe Threading Machine Co., The 89
Tretolite Co.
Trinity Portland Cement Company
Tubbs Cordage Co. 77
Tube-Turns, Inc. 21
Tulsa Boiler & Machinery Co.
Tulsa Chamber of Commerce
Twin Disc Clutch Co.

U

Union Wire Rope Corporation
Unit Rig & Equipment Company
United Gas Pipe Line Company
United Geophysical Co.
United States Rubber Company
United States Steel Corp., Subsidiaries
United States Steel Products Company
Universal Atlas Cement Co.
Universal Exploration Co.
Universal Oil Products Co. 38

V

Viking Pump Co.
Visco Products Company
Vogt, Henry, Machine Co.

W

Wall Rope Works, Inc.
Walworth Co.
Warren Petroleum Corporation
Watson-Stillman Co., The 80
Waukesha Motor Co.
Well Equipment Mfg. Corp.
Westcott Valve Company
Westinghouse Electric & Mfg. Co.
Weston Electrical Instrument Co.
Whitney Chain & Mfg. Co., The
Wickwire Spencer Steel Company
Williams & Co., J. H.
Wilson Manufacturing Co.
Wilson Supply Co.
Witte Engine Works
Worthington Pump & Machinery Corporation
Wyatt Metal & Boiler Works 55

Y

Young Engine Corp.
Youngstown Sheet & Tube Co.

Z

Zink Burners, John

The Oil Man's Calendar appears on Page 32

WHETHER DRILLING OR STRINGING
TRU·LAY *Preformed* IS BETTER

●When it's drilling—TRU-LAY Preformed works fast and long. It returns the idle block in double-quick time, makes faster round-trips regardless of load. It resists whipping and so spools perfectly.

When being strung TRU-LAY Preformed doesn't fight the men on the deck. It resists kinking, threads readily through the traveling block, crown block and eye in the drum, handles easily. Being preformed it is a safe rope to handle.

Drillers in every field are more and more turning to TRU-LAY Preformed for safe, dependable uniform service. Get a TRU-LAY Preformed line on your rig, too. It will give you greater dollar value.

BUY ACCO QUALITY *whether for American Cable Wire Lines—American Welded and Weldless Chain—Ford Chain Blocks—Page Chain Link Fence—Page Welding Wire—Reading-Pratt & Cady Valves—or any of the other 137 ACCO Industrial Products.*

AMERICAN CABLE DIVISION
WILKES-BARRE, PENNSYLVANIA
Branches or Distributors in All Oil Field Centers

GREEN SIGNIFIES SAFETY

Write today for this free booklet. You'll find it both constructive and helpful.

HOW TO CHOOSE THE RIGHT VALVE FOR EVERY SERVICE

Economical valve performance begins with proper valve selection. In the broad line of valves offered to industry, there is one that is best suited to each service requirement—one that will give dependable flow control at minimum cost. "Trouble spots" and high maintenance costs often result solely from mis-matching of valve and operating conditions of the line.

Crane's bulletin—"Service Characteristics of Globe Valves and Gate Valves," with its Valve Selection Guide will help you avoid mis-application of valves. It shows you the way to low-cost valve maintenance. Get a *free* copy from your Crane Representative—or, write today.

"THERE'S FLOW CONTROL *that stops profit leaks too!"*

MEN who buy or use valves are obviously familiar with them. From experience, they are in a position to know the value of quality in valve design and construction—even in the finest degrees. They know, too, and better than does the front office, how small losses caused by inefficient valves may seem negligible—yet can easily mount up to an important figure that shows in the profit and loss statement.

Crane valves are engineered to stop even the small losses. The extreme accuracy of their manufacture and the careful analysis and specification of the materials that go into each part assure long, economical service and few time-wasting replacements.

Regardless of what your piping problem may be—regardless of how specialized your field—you will find the valve you want in the complete Crane catalog which includes more than 38,000 items. Consult the Crane Representative regarding valves and fittings to meet your specific requirements.

CRANE

CRANE CO., GENERAL OFFICES
836 S. MICHIGAN AVE., CHICAGO

VALVES • FITTINGS • PIPE
PLUMBING • HEATING • PUMPS

NATION-WIDE SERVICE THROUGH BRANCHES AND WHOLESALERS IN ALL MARKETS